3 Demography and socioeconomic status

Introduction

Socioeconomic disadvantage is a unique determinant of inequalities in health: evidence for this is referred to in Chapter 1.

A range of data variables from the 1996 Population Census are mapped in this chapter to indicate variations in socioeconomic disadvantage at the small area level. The results of the correlation analysis, shown in Chapter 8, provide a measure of the strength of the association at the small area level in the distribution of the population with similar characteristics. The correlation analysis also draws attention to associations between the measures being discussed (eg. high rates of premature deaths of males, or high rates of admissions to hospital for circulatory system diseases) and the indicators of socioeconomic disadvantage mapped in this and the following chapters.

The next section describes the growth and distribution of the population in Western Australia (derived from Hugo 1991), discusses population projections and Indigenous population issues and raises some of the data issues that apply to the variables mapped and described in the remainder of the chapter.

Background

Population and distribution

In 1996, Perth's population was 1,244,320, an increase of 8.0 percent on the 1991 population. The urban area approximates a rectangular shape, extending some 90 kilometres from Joondalup in the north to Wanbro and Port Kennedy in the south, and some 60 kilometres from the coastline to the eastern margins located in the foothills of the Darling Plateau. As **Table 3.1** indicates, 72.1 per cent of Western Australia's population is resident in Perth Statistical Division, which comprises just 0.2 per cent of the State's area.

The location of Perth on the Swan River was established in 1829, some 20 kilometres upstream from the coast. In the early years, navigation problems on the Swan River meant that the colony's port operations were conducted at Fremantle, and its administrative functions at Perth. As a result, population development occurred around two foci - at what is now the centre of the city of Perth and at the port city of Fremantle. It has been constrained to the west by the Indian Ocean and to the east by the Darling Ranges.

Population growth was particularly slow to 1850. However, at that time, convict settlement occurred which provided a much needed labour source to encourage development. Between 1885 and 1915, gold rushes and the development of land for agriculture contributed to substantial population increase, so that between 1854 and 1911, Perth's population increased from 2,500 people to 116,200 people.

Towards the close of the nineteenth century, a railway line between Perth and Fremantle, and the beginnings of a tramway network, began to influence the direction and nature of settlement in Perth. The railway line between Perth and Fremantle encouraged the urbanisation of Cottesloe, Claremont, Subiaco and Bayswater.

After the First World War, public transportation developments expanded the urban patterns created in the first stage of settlement. By the end of World War Two, continuous urban settlement had occurred on both sides of the Swan River from Perth to Fremantle. Also, urbanisation nodes had begun to develop along the south-east railway line to Armadale, and urban nuclei were developing around the coastal centres of North Beach and Scarborough. Since World War Two, huge population expansion has occurred. Between 1947 and 1971, Perth's population increased by 150 per cent. By 1981, its population had more than trebled from its immediate post-war size to 922,000. Industrial activity decentralised to new locations at Kwinana, Bassendean, Kewdale, O'Connor and Welshpool. From 1970, Perth's population expansion was directed along four corridors: north towards Joondalup, south-west to Rockingham, east to Midland and south-east to Armadale. The nature of Perth's post-war expansion has resulted in very low population densities throughout most of the urban area.

As with all cities in 1996, Perth exhibits a clearly defined pattern of residential differentiation in which, generally, the higher socioeconomic status areas are located in areas with better quality residential land in terms of physical and environmental amenity. Accordingly, Perth's best residential areas are located to the west of the city centre, in suburbs such as Crawley, Subiaco, Floreat, Cottesloe and Peppermint Grove. Similar suburbs are located to the south of the Swan River at Leeming, Winthrop and Waterford.

Lower socioeconomic status suburbs are more dispersed and located to the north, east and south-east of the city centre. Other areas of relatively low socioeconomic status are centred around Fremantle, Kwinana and Rockingham. These patterns of social differentiation have important implications for health service utilisation and provision.

Table 3.1: Population and area, Western Australia, 1996

Section of State	Population:		Area:	
	No.	*Per cent*	*km²*	*Per cent*
Perth Statistical Division	1,244,320	72.1	5,382	0.2
Rest of State	481,775	27.9	2,522,135	99.8
Whole State	**1,726,095**	**100.0**	**2,527,517**	**100.0**

Source: ABS special data services

Projected population

Perth's population is projected to increase by 21.7 per cent to 1,514,800 in 2006, and then to 1,729,900 by 2016 (ABS 1998). The population of the non-metropolitan areas of Western Australia is projected to increase by 12.7 per cent to 543,900 in 2006, and to 608,400 by 2016. The projected growth in Perth to 2016 will be among the fastest in Australia, exceeded only by Darwin (52.2 per cent) and Brisbane (40.8).

Data issues

Data quality of Indigenous population counts

As noted in Chapter 2, *Methods*, the data describing the health status and utilisation of health services by Aboriginal people are generally of poor quality. It has become clear with the release of results from the 1996 Census that population data are also less than ideal. **Table 3.2** shows the population of Indigenous Australians as recorded at the three most recent Censuses, as well as changes over the ten-year period from 1986 to 1996. The number of Indigenous people recorded has increased by 125,325 people, from 227,645 at the 1986 Census to 352,970 at the 1996 Census (an increase of 55.1 per cent). Of the total increase, over half (69,051, or 55.1 per cent) occurred in the non-metropolitan areas, an increase for these areas of 44.4 per cent over ten years. The capital cities, with 26.6 per cent of the population of Indigenous Australians in 1986, showed an apparently stronger growth rate, of 79.0 per cent.

At the State/Territory level, the apparent rate of Indigenous population growth was highest in the Australian Capital Territory (137.6 per cent) and Tasmania (106.6 per cent), and lowest in the Northern Territory (33.2 per cent) and Western Australia (34.4 per cent). Queensland moved from having the largest population of Indigenous Australians in 1986 (with 61,268) to second largest, with 95,518 (after New South Wales with 101,485) in 1986. Sydney remained the capital city with the largest population of Indigenous people over the ten years to 1996. The major urban centres of Geelong and Newcastle/Wollongong had the highest increases, of 359.7 per cent and 134.2 per cent, respectively.

Table 3.2: Population of Indigenous Australians, 1986 to 1996

Area	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
1986									
Capital City	18,589	6,173	11,257	5,825	10,087	2,136	5,536	1,056	60,659
Other Major Urban Centres	4,515	392	6,515	..	..	..	..	..	11,422
Rest of State/Territory	35,907	6,046	44,101	8,466	27,702	4,580	29,203	164	155,564
Whole State/Territory	59,011	12,611	61,268	14,291	37,789	6,716	34,739	1,220	227,645
1991									
Capital City	22,600	7,956	13,456	6,948	11,744	3,026	6,179	1,588	73,497
Other Major Urban Centres	6,641	625	7,462	..	..	..	..	..	14,728
Rest of State/Territory	40,778	8,154	49,977	9,284	30,035	5,859	33,731	187	177,234
Whole State/Territory	70,019	16,735	70,124	16,232	41,779	8,885	39,910	1,775	265,459
1996									
Capital City	34,438	10,725	21,887	9,387	17,198	4,705	7,368	2,896	108,604
Other Major Urban Centres	10,573	1,802	9,233	..	..	..	..	..	20,608
Rest of State/Territory	56,474	9,947	65,462	11,057	33,595	9,168	38,909	3	224,615
Whole State/Territory	101,485	22,474	95,518	20,444	50,793	13,873	46,277	2,899	352,970
	percentage change								
Capital city									
1986 to 1991	21.6	28.9	19.5	19.3	16.4	41.7	11.6	50.4	21.2
1991 to 1996	52.4	34.8	62.7	35.1	46.4	55.5	19.2	82.4	47.8
1986 to 1996	85.3	73.7	94.4	61.2	70.5	120.3	33.1	174.2	79.0
Other major urban centre									
1986 to 1991	47.1	59.4	14.5	..	..	..	..	..	28.9
1991 to 1996	59.2	188.3	23.7	..	..	..	..	..	39.9
1986 to 1996	134.2	359.7	41.7	..	..	..	..	..	80.4
Rest of State/Territory									
1986 to 1991	13.6	34.9	13.3	9.7	8.4	27.9	15.5	..	13.9
1991 to 1996	38.5	22.0	31.0	19.1	11.9	56.5	15.4	..	26.7
1986 to 1996	57.3	64.5	48.4	30.6	21.3	100.2	33.2	..	44.4
Whole State/Territory									
1986 to 1991	18.7	32.7	14.5	13.6	10.6	32.3	14.9	45.5	16.6
1991 to 1996	44.9	64.3	36.2	25.9	21.6	56.1	16.0	63.3	33.0
1986 to 1996	72.0	78.2	55.9	43.1	34.4	106.6	33.2	137.6	55.1

Source: Calculated from unpublished data supplied by ABS special data services

Such increases are not explained by the relatively higher fertility rates among Indigenous people, nor are they explained by a decline in mortality of Indigenous Australians. Rather, it appears that Australians have been increasingly prepared to identify themselves as Indigenous on the Census form. The question remains as to what per cent of the actual population of Indigenous Australians these current levels of identification represent.

ABS SEIFA Index of Relative Socio-Economic Disadvantage

At each Census since the 1986 Census, the ABS have produced a number of indexes which measure different aspects of the socioeconomic conditions of the populations of geographic areas (ABS 1998). These summary measures, the Socio-Economic Indexes for Areas (SEIFA), combine into one index a range of information relating to the social and economic characteristics of the populations in small areas.

One of these indexes, the Index of Relative Socio-Economic Disadvantage (IRSD), summarises the information available from variables related to education, occupation, income, family structure, race (the proportion of Indigenous people), ethnicity (poor proficiency in use of the English language) and housing. The index reflects the extent of disadvantage represented by, for example, the proportion of low income families, of those with relatively low educational attainment and of high unemployment, in the area being examined. The variables are, therefore, similar to those presented in the remainder of this chapter. While the index number is a useful measure of socioeconomic disadvantage, users should realise its limitations. For example, while it represents the results of a particular set of statistical analyses on a set of variables from the 1996 Census, changing the variables could change the particular index values calculated (although the relativities between the areas for these variables are, in general, likely to remain). It also has a wide range of uses, such as for the allocation of resources or as a shorthand description of populations living in an area, but is not a universal answer to all such needs.

The IRSD is calculated at the smallest geographic level for which data are available from population Censuses – the Census Collection District – and was then calculated for the larger areas in the atlas (Statistical Local Areas, Statistical Subdivisions, Statistical Divisions and States and Territories) by weighting the scores for these smaller units by their population.

The IRSD is calculated to show the relativity of areas to the Australian average for the particular set of variables that comprise it. This average score is set at 1000. In this atlas, data mapped at the SLA level have been re-weighted so that Western Australia is the average, with a State score of 1000. The text draws attention to the use of the two averages. Areas with relatively less disadvantaged populations (ie. those of higher socioeconomic status) have an index number of above 1000 and those with relatively greater disadvantage (ie. of lower socioeconomic status) have an index number of less than 1000. It is unfortunate that an IRSD uses high index scores to indicate advantage, when it would be intuitively expected that high index scores would indicate disadvantage, as implied by the name of the index. The text and maps for the IRSD are on pages 74 to 77.

In the discussion in the text, statistically significant *inverse correlations* between the IRSD and other variables indicate a positive association between the distributions of those variables and the disadvantaged population at the SLA level. Statistically significant *positive correlations* indicate an association between the particular variable(s) and areas comprising relatively advantaged populations. This is a difficult concept to grasp, so an example may assist. In the case of the variable for single parent families in Perth (page 28), there is an inverse correlation (-0.68) with the IRSD. Thus, at the SLA level in Perth there is a strong *negative* association between high proportions of single parent families and high SEIFA index scores. This can be restated as there being a strong *positive* association with socioeconomic disadvantage (ie. low index scores).

Age-sex standardisation

Age-sex standardisation was used to adjust the data mapped for the variable for early school leavers (**Maps 3.20** and **3.21**).

It is straightforward to calculate from the Census the percentage of each SLAs adult population, leaving school at the age of 15 or less, but a significant part of the variation between SLAs in this measure is caused by age structure. A person aged 70 is less likely to have stayed at school past the age of 15 than a person aged 20, simply because of the changes over the past 55 years in the education system. Age-sex standardisation measures variations in educational participation in a way unaffected by age structure. For each SLA, a theoretical expected number of adult residents who left school at age 15 or less has been calculated, assuming that each 5 year age group in its population had the same educational participation record as that age group in the Western Australian population as a whole. This expected number is then compared with the actual number, to establish whether the number of people who did not continue at school beyond 15 is significantly greater or less than one would expect given the area's age structure. A similar analysis compares the level of participation for each State/Territory and capital city, using Australia as the standard.

Data definitions

The variables mapped and details of the way in which they have been defined are shown in **Table 3.3**.

Table 3.3: Details of demographic and socioeconomic variables mapped

Topic and variable name	Numerator	Denominator
Age distribution		
children aged 0 to 4	All children aged 0 to 4 years	Total population
people aged 65 and over	All people aged 65 years & over	Total population
Families		
single parent families	Single parent families with dependent children [under 15 yrs]	All families
low income families[1]	Families with income less than $21,000 p.a. [$400 per week]	All families with an income
high income families[2]	Families with income of $52,000 or more p.a. [$1,000 per week]	All families with an income
Labour force		
unskilled and semi-skilled workers	Intermediate production & transport workers; labourers & related workers	Total employed labour force
high status occupations[2]	Managers and administrators; & professionals	Total employed labour force
unemployed people	People with labour force status as unemployed	Total labour force
female labour force participation	All females aged 20 to 54 years in the labour force	All females aged 20 to 54 years
Educational participation and achievement		
early school leavers[3]	People who left school at age 15 years or less, or did not go to school	Population aged 15 years & over
Aboriginal and Torres Strait Islander	Aboriginal and/or Torres Strait Islander people	Total population
People born in predominantly non-English speaking countries		
resident for five years or more	Number born in predominantly non-English speaking countries and resident for five years or more	Total population
resident for less than five years	Number born in predominantly non-English speaking countries and resident for less than five years	Total population
proficiency in English	People aged five years and over and born in predominantly non-English speaking countries who speak English 'not well' or 'not at all'	Population aged 5 years and over
Housing		
housing authority rented dwellings	Occupied private dwellings rented from the State/Territory housing authority	All occupied private dwellings
dwellings with no vehicles	Occupied private dwellings with no motor vehicles garaged or parked there on Census night	All occupied private dwellings

[1]When interpreting the figures for low income families in the text in this chapter, it should be noted that the indicators of low income used in the comparisons ($12,000 per annum or less in 1986 and less than $21,000 per annum in 1996) do not equate to equivalent incomes and have thus not been adjusted based on changes to buying power. Rather, they are based on categories of income available from the Census and denote comparability of income in 1986, 1991 and 1996 based on the levels of incomes of recipients of the sole parents' allowance and unemployment allowances.

[2]These variables were not mapped but are included in the correlation analyses.

[3]This variable was adjusted using age-sex standardisation: a description of this process is in the text above.

Source: Compiled from project sources

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Children aged 0 to 4 years, 1996

Capital city comparison

Children are major users of health services, especially in the first years of life. Children living in families of lower socioeconomic status are more likely to have poorer health status and generally make more use of primary and secondary health services than those who are better off. Their distribution at a local area level is therefore an indicator of likely health service demand and the need for preventative programs.

Children aged from 0 to 4 years comprised 7.1 per cent of Australia's total population at the 1996 Census, and 6.9 per cent of the population of the capital cities (**Table 3.4**). In the last three Censuses, the proportion of young children in **Adelaide**, the capital city with the highest proportion of population at older ages and the lowest Total Fertility Rate (see **Chapter 5**), was the lowest of all these cities. The percentages for most of the other capitals equated to or were slightly above the average. In contrast **Darwin**, with 8.1 per cent, had a considerably higher proportion of children aged from 0 to 4 years.

The proportion of the total population aged from 0 to 4 years in Australia's capital cities decreased marginally in the ten years to 1996, from 7.3 per cent in 1986 to 7.2 per cent in 1991 and 6.9 per cent in 1996.

Table 3.4: Proportion of population aged 0 to 4 years, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**7.0**	**6.9**	**7.1**	**6.4**	**6.8**	**6.9**	**8.1**	**7.3**	**6.9**
1986	**7.3**	**7.0**	**7.5**	**6.9**	**7.6**	**7.8**	**9.0**	**8.3**	**7.3**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth

In 1986, there were 76,059 children aged from 0 to 4 years in **Perth**, 7.6 per cent of the population. By 1991, their numbers had increased by 10.7 per cent to 84,212 (7.4 per cent of the population). Between 1991 and 1996 the number of 0 to 4 year olds increased only marginally, to 85,167, an increase of 1.1 per cent, and a further reduction to 6.8 per cent of the population. Thus, while the number of young children has increased over this ten year period, their proportion of the total population has decreased.

The pattern of distribution of 0 to 4 year old children is essentially concentric, with the lowest levels found in the older SLAs adjacent to the city centre and Swan River, slightly higher levels in the inner suburbs and the highest proportions in the newer, outer urban areas (**Map 3.1**).

Twelve SLAs in the outer suburbs had proportions of 0 to 4 year olds in their population of above the **Perth** average of 6.8 percent. These were Wanneroo: North-West (12.3 per cent), Wanneroo: South-East, Kwinana, and Swan (all 9.5 per cent), Wanneroo: Central Coastal (9.2 per cent), Rockingham (8.9 per cent), Armadale (8.3 per cent), Gosnells and Cockburn (both with 8.2 per cent), Serpentine-Jarrahdale (8.1 per cent), Mundaring (7.0 per cent) and Bassendean (6.9 per cent).

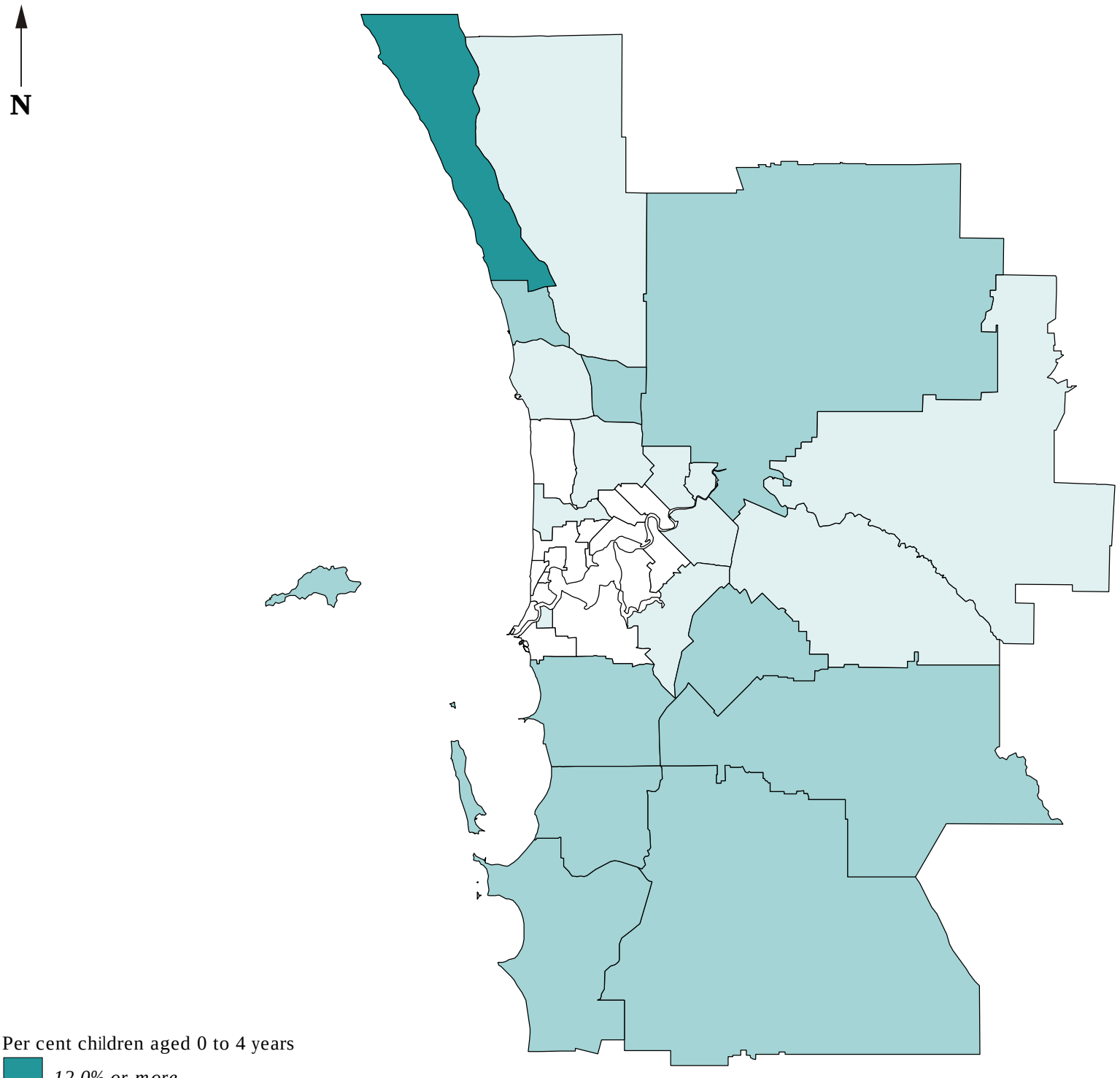
In contrast, the near city centre SLAs are characterised by below-average percentages. The SLA of Perth had 1.5 percent of its population aged from 0 to 4 years, with higher proportions in Claremont (3.8 per cent), Peppermint Grove (4.1 per cent), Mosman Park (4.4 per cent), South Perth and Cottesloe (both 4.5 per cent) and Nedlands (4.9 per cent). Subiaco had 5.6 per cent of its population in the 0 to 4 year age group.

The largest numbers of young children were also recorded in the outer suburbs. Nearly 16,000 children aged from 0 to 4 years were resident in the City of Wanneroo (6,547 in South-West, 3,416 in Central Coastal, 2,930 in South-East, 2,092 in North-West and 945 in North-East). The SLAs of Swan (6,540), Gosnells (6,054), Stirling: Central (5,640) and Rockingham (5,197) all had more than 5,000 children aged from 0 to 4 years.

There were correlations of substantial significance at the SLA level between high proportions of young children and the variables for unskilled and semi-skilled workers (0.86) and early school leavers (0.86). There were also inverse correlations, of substantial significance with the variables for managers and administrators, and professionals (-0.83) and with people aged 65 years and over (-0.82), and of meaningful significance with the variables for high income earners (-0.70), female labour force participation (-0.64), migrants resident for fewer than five years (-0.59) dwellings with no motor vehicle (-0.50). These results, together with the inverse correlation of substantial significance with the IRSD (-0.68), indicate the existence of an association at the SLA level between high proportions of young children and socioeconomic disadvantage.

Map 3.1
Children aged 0 to 4 years, Perth, 1996

as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Children aged 0 to 4 years, 1996

State/Territory comparison

The proportions of children aged from 0 to 4 years in the non-metropolitan areas of Australia (the areas designated *Rest of State/Territory* in the table) were higher than in the capital cities. The average nation-wide percentage for the *Rest of State/Territory* areas was 7.5 per cent, with a similar percentage in New South Wales (**Table 3.5**). At the *Whole of State/Territory* level South Australia had the lowest proportion (6.7 per cent) and the Northern Territory had the highest (8.6 per cent), with the other States having percentages near the average.

Comparisons between the 1986, 1991 and 1996 Censuses indicate a consistent reduction in the proportions of children aged from 0 to 4 years during the past decade. This trend of declining numbers of children over time is apparent across all of the States and Territories, and is particularly significant in the *Rest of State/Territory* areas, where the average declined from 8.4 per cent to 7.5 per cent between 1986 and 1996.

Table 3.5: Proportion of population aged 0 to 4 years, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	7.0	6.9	7.1	6.4	6.8	6.9	8.1	7.3[2]	6.9
Other major urban centres[3]	7.2	6.9	6.4	..	..	..	..	..	6.8
Rest of State/Territory	7.4	7.5	7.4	7.4	8.0	7.6	9.0	–[4]	7.5
Whole of State/Territory	7.1	7.0	7.1	6.7	7.2	7.3	8.6	7.2	7.1
1986									
Rest of State/Territory	8.2	8.2	8.4	8.3	9.2	8.3	10.2	–[4]	8.4

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

In 1996, there were 38,449 children aged from 0 to 4 years in the non-metropolitan areas of Western Australia, 2,236 fewer than at the 1991 Census, but just above the number of 37,959 children recorded in 1986.

More than three quarters of the non-metropolitan SLAs had between 6.0 and 9.9 per cent of their population aged from 0 to 4 years, with percentages varying from 2.7 per cent in Wiluna to 18.4 percent in Murchison (**Map 3.2**).

Almost half (47.8 per cent) of the SLAs had between 8.0 and 9.9 per cent of their populations at these ages.

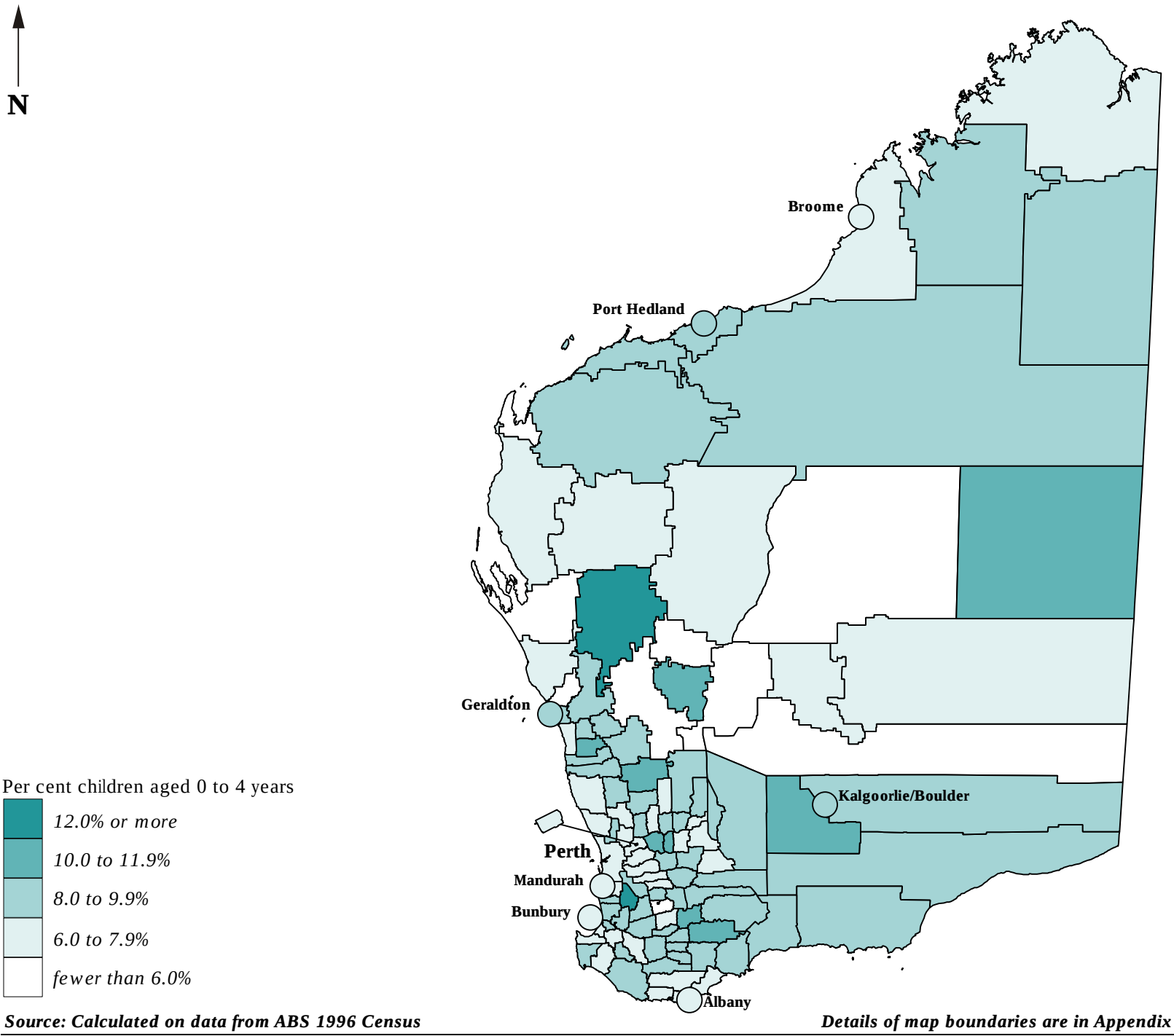
These SLAs were distributed widely, particularly throughout the wheat belt, but also in the pastoral and mining areas of the State.

Very low proportions are found in SLAs located in the desert and more remote areas of Western Australia, including the SLAs of Wiluna (2.7 per cent), Sandstone (3.5 per cent), Shark Bay (4.2 per cent), Yalgoo (4.6 per cent), and Menzies and Exmouth (both 4.9 per cent).

The largest numbers of children aged from 0 to 4 years were in Mandurah (2,968 children), Kalgoorlie/Boulder (2,700), Bunbury (1,794) and Geraldton (1,582). Other SLAs with more than 1,000 children aged from 0 to 4 years were Roebourne, Busselton, Harvey, Port Hedland, Esperance and Albany. However, although the larger towns contain large numbers of young children, relatively large numbers also live in the more sparsely-settled rural areas, and here rather different problems are posed by the need to deliver health and welfare services to a widely-scattered population.

There was no consistent evidence in the correlation analysis of an association at the SLA level between high proportions of young children and socioeconomic status.

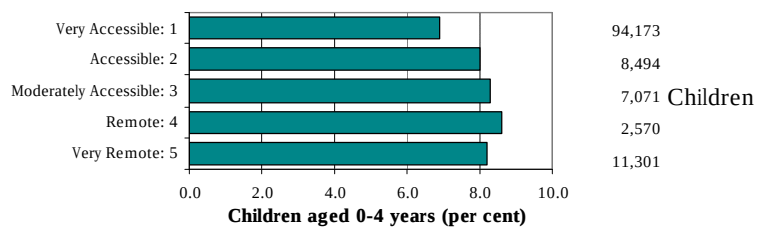
Map 3.2
Children aged 0 to 4 years, Western Australia, 1996
as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The proportion of young children aged from 0 to 4 years increases with increasing remoteness, from the lowest proportion of 6.9 per cent of the population in the Very Accessible ARIA category, to the highest proportion of 8.6 per cent in the Remote areas. There was a slightly lower proportion in the Very Remote areas (8.2 per cent of the population), although this was represented the second largest number, of 11,301 children. The existence of a relatively larger number of children in the most remote areas is unique to Western Australia.

Source: Calculated on ARIA classification, DHAC

People aged 65 years and over, 1996

Capital city comparison

Australia is an ageing society, brought about in part by reduced mortality rates at older ages, a trend that has become especially evident over the past two to three decades. Increased morbidity is often associated with reduced mortality, and the incidence of an older population is likely to indicate areas where increased health services will be required.

Perth had 10.8 per cent of its population aged 65 years and over at the 1996 Census, with only **Darwin** (5.0 per cent) and **Canberra** (7.1) recording lower percentages. Although the ageing process is less evident in **Perth** than in the other capital cities, this is not to suggest that the numbers of older people are not increasing, but rather that the impact of the ageing process is being offset by other processes. Indeed, there has been a steady increase in both the numbers and the proportions of people aged 65 years and over during the 10 years to 1996. Their proportion in the population increased from 10.0 per cent in 1986 to 10.2 per cent in 1991 and to 10.8 per cent in 1996.

Table 3.6: Proportion of population aged 65 years and over, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**11.8**	**11.5**	**11.0**	**14.1**	**10.8**	**12.5**	**5.0**	**7.1**	**11.6**
1986	**10.8**	**10.2**	**10.5**	**12.0**	**10.0**	**10.9**	**3.3**	**5.2**	**10.4**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth

In 1996, 134,311 people in **Perth** were aged 65 years or over, an increase of 14.7 per cent on the 117,120 people in 1991, and an increase of 35.5 per cent on the 99,120 in 1986.

Table 3.8 (page 26) shows the distribution of older people within the various age cohorts. The impact of increasing longevity is evident in the higher proportions in the two older cohorts in 1996, compared with 1986, and in the high growth rates. Also of note are the greater representation of females at these ages both overall (although only from 75 years of age in the *Rest of State* and in **Perth** when compared with the non-metropolitan areas of Western Australia (at all age groups shown).

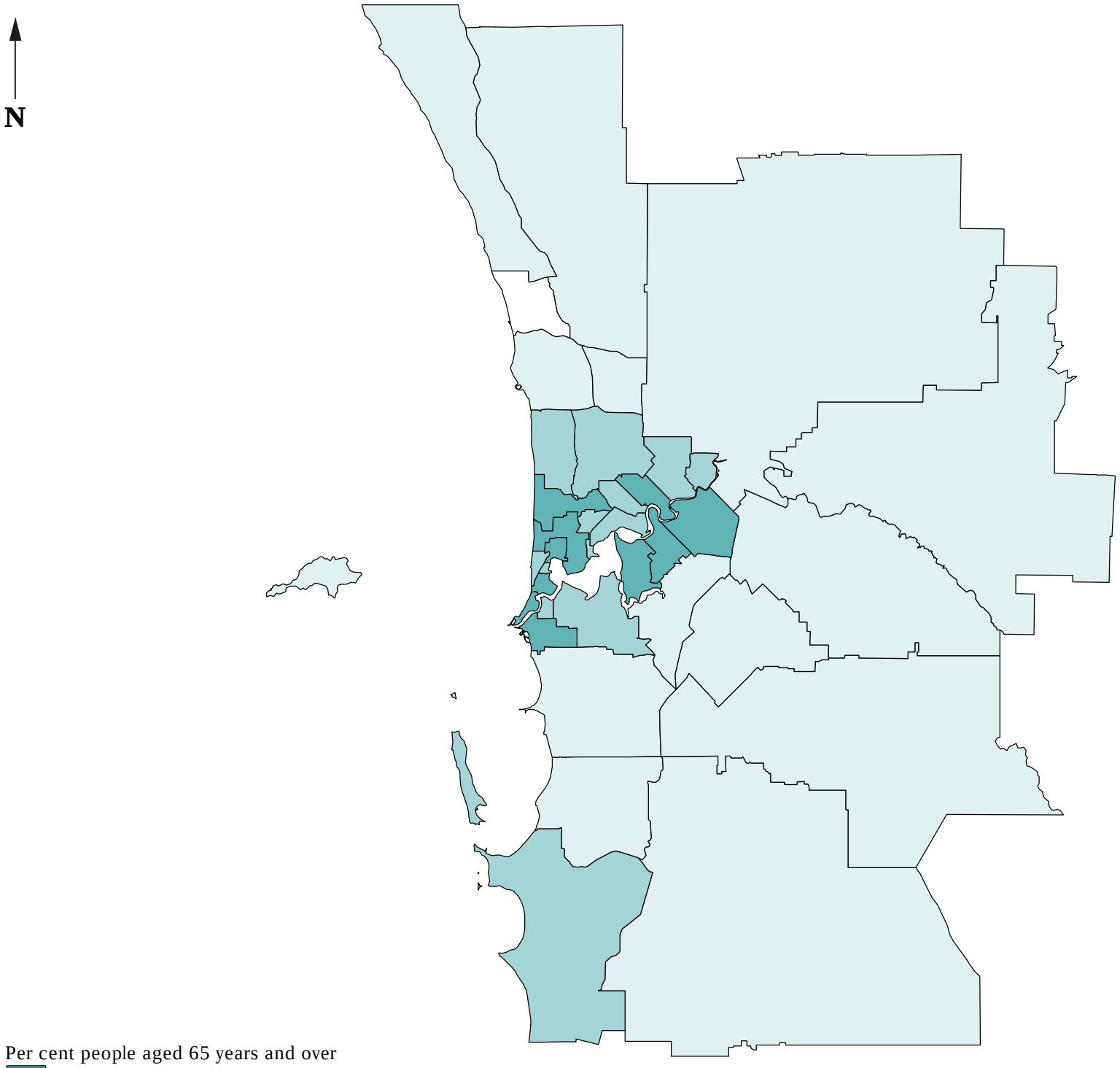
The main concentrations of older people in 1996 were located in the inner suburbs on either side of the Swan River, in the northern suburbs and in the retirement areas along the metropolitan coastline (**Map 3.3**). While the highest proportion (18.9 per cent) was located in Victoria Park, 59.4 per cent of metropolitan SLAs had more than 10 percent of their population aged 65 or older. These SLAs included Claremont (18.5 per cent), Nedlands (18.4 per cent), Stirling: South-Eastern (18.2 per cent), Cambridge (16.4 per cent), Fremantle and South Perth (both 15.4 per cent), Mosman Park (15.1 per cent) and Belmont (15.0 per cent).

As would be expected, the more recently settled, and therefore more youthful, outer SLAs had lower proportions of aged people in their populations. The lowest proportions were recorded in the SLA of Wanneroo: Central (4.4 per cent), South-East (5.9 per cent), North-West (6.1 per cent) and South-West (6.9 per cent); Wanneroo: North-East had a higher 8.8 per cent of its population in this age group. Proportions of below 10 per cent were also recorded in Swan, Serpentine-Jarrahdale and Gosnells (each with 7.1 per cent), Cockburn (7.7 per cent), Kwinana (7.9 per cent), Armadale (8.0 per cent), Mundaring (8.4 per cent), Kalamunda (8.8 per cent) and Canning (9.4 per cent).

Nearly 12,000 older people lived in each of the SLAs of Stirling: Central (11,982 people) and Melville (11,975), and more than 6,400 in bay-side Canning (6,455 people) and the coastal SLAs of Stirling: Coastal (7,648), Wanneroo: South-West (7,154) and Rockingham (6,486).

There were correlations of meaningful significance at the SLA level between high proportions of people aged 65 years and over and the variables for managers and administrators, and professionals (0.62) and dwellings with no motor vehicle (0.68). There was an inverse correlation of substantial significance with children aged from 0 to 4 years (-0.82), and of meaningful significance with the variables for early school leavers (-0.63) and unskilled and semi-skilled workers (-0.62). These results, together with the weak correlation with the IRSD (0.35), suggest the existence of an association at the SLA level between the distribution of older people in **Perth** and high socioeconomic status.

Map 3.3
People aged 65 years and over, Perth, 1996
as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

People aged 65 years and over, 1996

State/Territory comparison

The proportion of people aged 65 years and over in the non-metropolitan areas of Western Australia is among the lowest, with only the Northern Territory having a lower percentage (of 4.9 per cent). These relatively low proportions of older people in Western Australia and the Northern Territory result from the heavy emphasis on pastoral and mining activities in their rural economies. Such activities encourage a youthful workforce, whose presence is not offset by large regional centres which encourage a retired population, as occur along the coastal areas of Queensland northern New South Wales. However, despite this, there has been a steady increase in the proportion of people aged 65 years and over in Western Australia's non-metropolitan areas, from 7.7 per cent in 1986 to 8.7 per cent in 1991 and 9.7 per cent in 1996. These relative increases have been accompanied by a corresponding increase in numbers. Nation-wide, the most significant increase in the older population between 1986 and 1996 occurred in the *Rest of State/Territory* areas, an increase of 36.6 per cent.

Table 3.7: Proportion of population aged 65 years and over, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	11.8	11.5	11.0	14.1	10.8	12.5	5.0	7.1[2]	11.6
Other major urban centres[3]	13.6	13.6	15.9	..	..	..	..	..	14.5
Rest of State/Territory	14.4	13.3	12.2	13.2	9.7	12.2	4.9	–[4]	12.8
Whole of State/Territory	12.7	12.0	12.0	13.8	10.5	12.3	4.9	7.1	12.1
1986									
Rest of State/Territory	11.6	11.2	10.3	10.5	7.7	10.5	4.1	–[4]	10.5

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

The population of the non-metropolitan areas of Western Australia (9.7 per cent of the population aged 65 years or over) in 1996 was slightly younger than that of **Perth** (10.8 per cent). The highest proportion of older people was in Shark Bay, with 21.9 per cent, and the lowest was in Laverton, with 1.1 percent.

Generally, the highest proportions of people in this age group were located in a coastal strip from Exmouth (20.4 per cent) to Geraldton (11.6 per cent), and in Albany (17.0 per cent) and Mandurah (15.8 per cent) in the south-west of the State (**Map 3.4**). This distribution clearly reflects the role of these locations, in terms of leisure activities, environment and climate, in catering for the needs of an older, and possibly retired, population. Slightly lower proportions, of between 10 and 14.9 per cent of total population, were found in SLAs closer to **Perth** and scattered throughout the south-west corner of the State. Even lower proportions were found in the northern and eastern wheat belt, and the lowest proportions were recorded in the arid pastoral and mining zone. Aside from Laverton (1.1 per cent), other very low proportions were in Sandstone (1.0 per cent), Wiluna (1.9 per cent), Coolgardie (2.2 per cent) and Leonora (2.6 per cent).

Table 3.8 shows the distribution of older people within the various age cohorts and the strong growth in the population in the non-metropolitan areas aged 65 years and over (up by 47.2 per cent from 1986 to 1996). This was higher than the growth in **Perth**, of 35.5 per cent. Other matters of note are the large increases in the proportion of people at the oldest ages, and the higher representation of older females in **Perth**.

There was no consistent evidence in the correlation analysis of an association at the SLA level between high proportions of people aged 65 years and over and socioeconomic status.

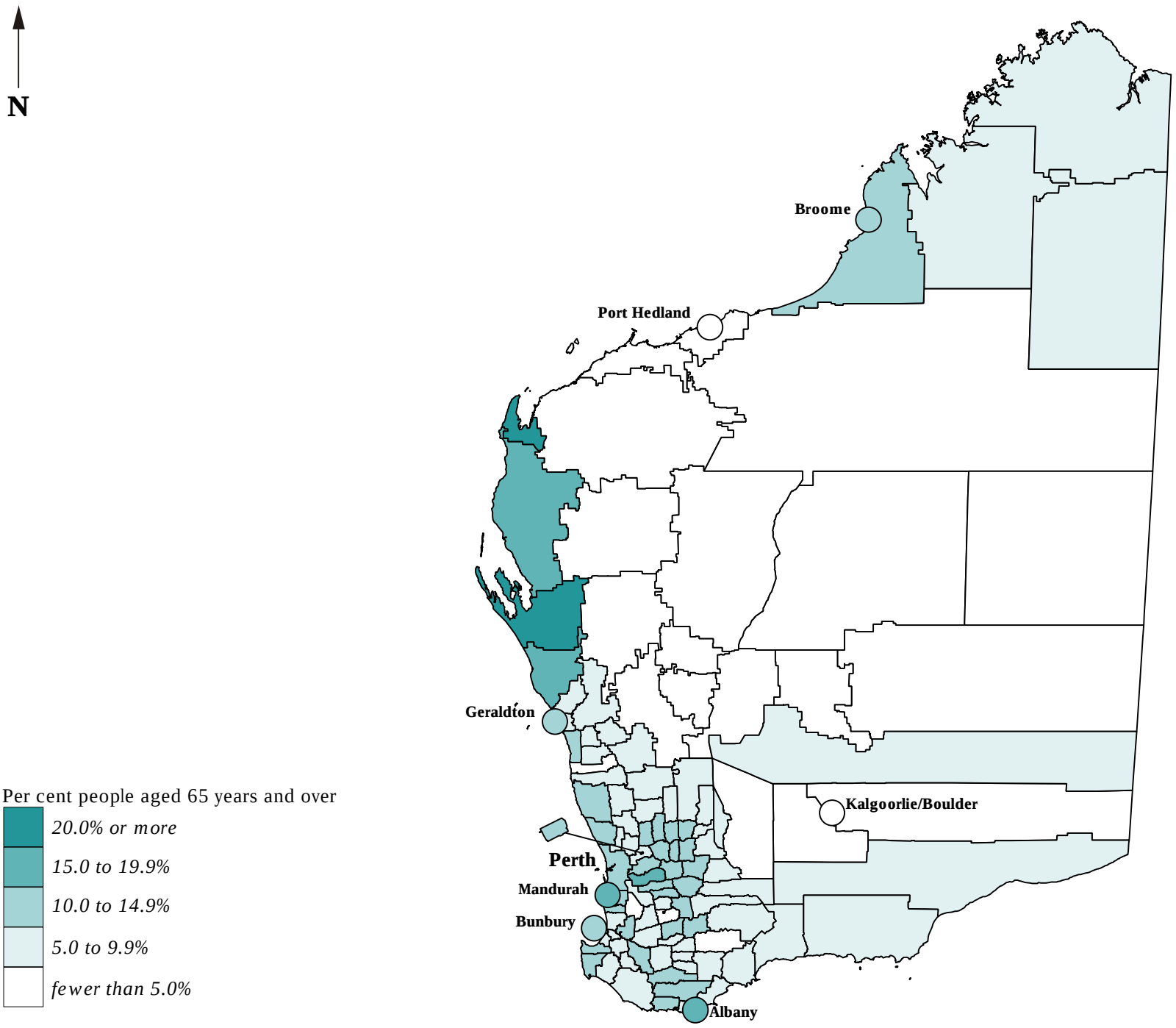
Table 3.8: Structure of population aged 65 years or more, Western Australia, 1986 and 1996

Per cent

Age group (years)	People aged 65 years or more				Increase 1986 to 1996		Proportion of females, 1996	
	1986		1996					
	Perth	Rest of State	Perth	Rest of State	Perth	Rest of State	Perth	Rest of State
65 to 69	31.6	35.7	30.7	37.3	31.8	53.7	52.2	47.1
70 to 74	28.3	29.2	26.7	27.1	27.8	36.4	54.8	49.1
75 to 79	20.4	18.6	18.9	16.6	26.0	31.7	58.8	53.5
80 to 84	12.0	10.3	13.5	11.1	52.5	59.5	64.3	58.1
85 +	7.8	6.2	10.2	7.9	77.2	87.2	70.6	63.4
Total 65+	**100.0**	**100.0**	**100.0**	**100.0**	**35.5**	**47.2**	**57.6**	**51.2**

Source: ABS 1986 Census 21 page format Table CO7; 1996 Census Basic Community Profile Table B03

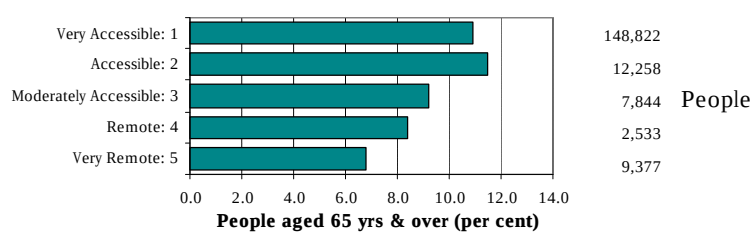
Map 3.4
People aged 65 years and over, Western Australia, 1996
as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The highest proportions of people aged 65 years and over live in the areas categorised as 'accessible', comprising 10.9 per cent in the Very Accessible areas and a slightly higher 11.5 per cent of the population in the Accessible areas. Rates then decreased to the lowest level of 6.8 per cent (but with a relatively large number of older people) in the Very Remote areas. These results indicate the value that older Australians place on access to health, welfare and other services, which are largely located in the more accessible areas.

Source: Calculated on ARIA classification, DHAC

Single parent families, 1996

Capital city comparison

Single parent families are defined as all single parent families with dependent children aged less than 15 years: the proportion of single parent families is derived as the percentage of all families. Throughout Australia, the majority of single parent families are characterised by poverty and hardship, have poor health and are major users of public health services. Details of their location are, therefore, of importance to public policy makers and those providing health, education, welfare, housing and transport services.

At the 1996 Census, the proportion of single parent families in Australia's capital cities was 9.7 per cent (**Table 3.9**), varying from 9.1 per cent in **Melbourne**, to 13.8 per cent in **Darwin**.

The increase in the number of single parent families has been one of the most important demographic trends in Australia in recent years. In the ten years from 1986, the proportion of single parent families in Australia as a whole and in each capital city increased substantially. For Australia, the increase was from 324,171 in 1986 (7.8 per cent of all families) to 460,618 single parent families (9.9 per cent of all families) in 1996. The largest increase was recorded in **Hobart**, where proportions for this variable increased from 9.3 per cent in 1986, to 12.1 per cent in 1996. **Melbourne**, **Brisbane**, **Adelaide**, **Darwin** and **Canberra** all recorded increases of more than 2 percentage points in this ten year period. Whilst **Sydney** recorded a lower increase than the other major cities, it had the largest number of these families at both the 1986 and 1996 Censuses: the largest increase in the number of single parent families occurred in **Melbourne**.

Table 3.9: Single parent families, capital cities
Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**9.3**	**9.1**	**10.5**	**10.4**	**10.1**	**12.1**	**13.8**	**11.5**	**9.7**
1986	**7.8**	**6.9**	**8.3**	**8.0**	**9.1**	**9.3**	**11.1**	**9.2**	**7.9**

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

In 1986, there were 24,577 single parent families in **Perth**, increasing by 16.5 per cent to 28,642 single parent families in 1991 and by a further 16.2 per cent to 33,266 in 1996. Single parent families often experience difficulty in obtaining housing and are heavily concentrated into rental accommodation, especially public rental housing, as shown in **Table 3.10**.

Single parent families comprised 10 per cent or more of all families in over half of **Perth's** SLAs. Generally, high proportions of single parent families within **Perth's** SLAs corresponded with large numbers of single parents.

As **Map 3.5** shows, the highest proportions of single parent families within **Perth** were in Fremantle and Mosman Park (both 13.7 per cent), in Wanneroo: South-East (13.4 per cent), and in Belmont and Kwinana (both 13.2 per cent). Outside of these areas, there were high proportions of single parent families in middle and outer suburbs located to the north, north-east, south-east and south of the city centre.

Low proportions were recorded in the SLAs of Peppermint Grove (4.7 per cent of families), Perth (5.7 per cent), Serpentine-Jarrahdale (6.3 per cent) and Cambridge (7.0 per cent).

Thirteen SLAs had more than 1,000 single parent families and, of these, four had 2,000 or more single parent families. These SLAs were Stirling: Central (2,908 single parent families), Wanneroo: South-West (2,520), Gosnells (2,268) and Swan (2,123). Melville had 1,988 single parent families.

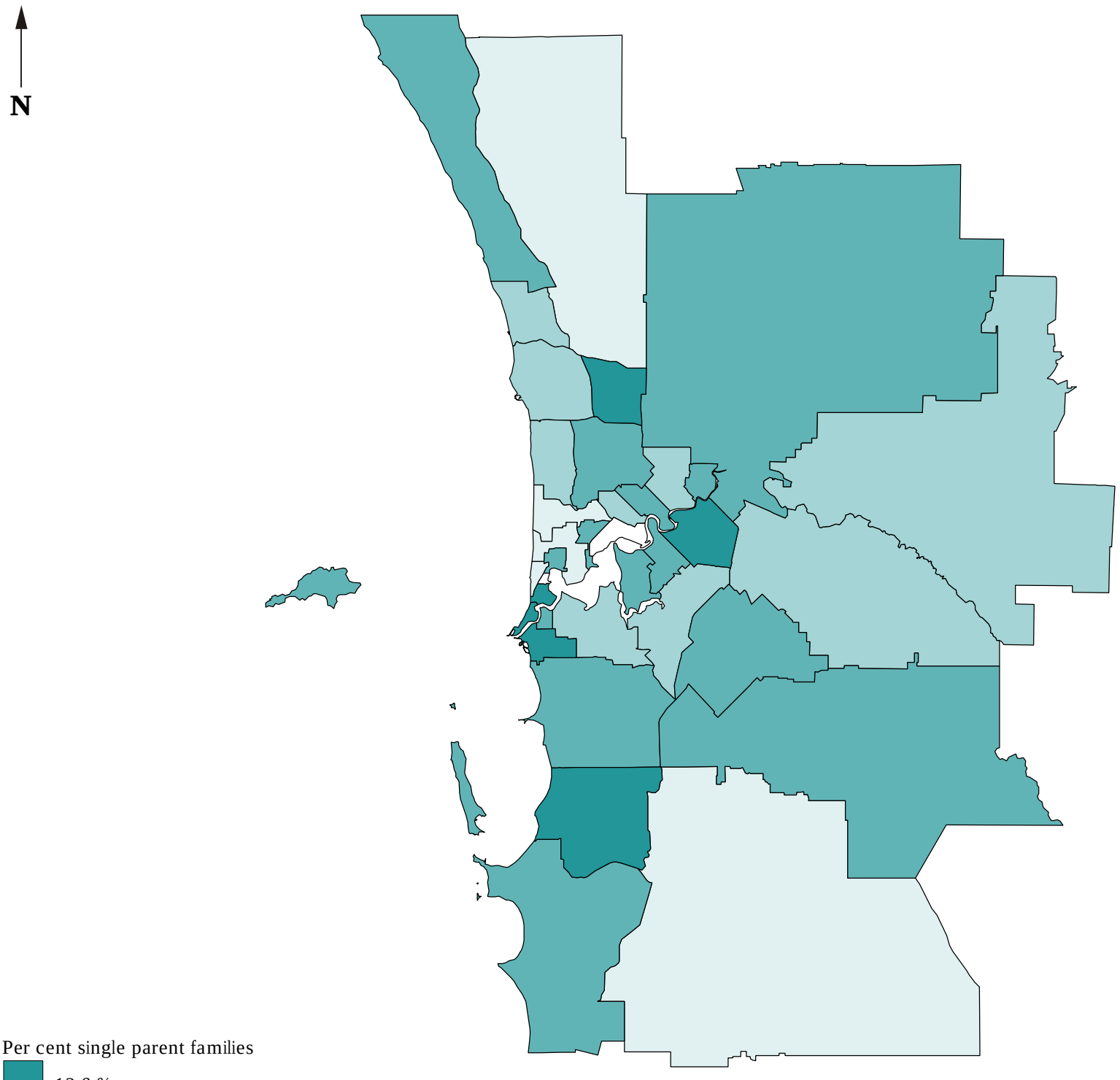
There were correlations of substantial significance at the SLA level between high proportions of single parent families and the variables for housing authority rented dwellings (0.81), unemployed people (0.79) and low income families (0.78), and of meaningful significance with the Indigenous population (0.61). An inverse correlation of meaningful significance recorded with the variable for high income families (-0.64). These results, together with the inverse correlation of meaningful significance with the IRSD (-0.68), indicate the existence of an association at the SLA level between high proportions of single parent families and socioeconomic disadvantage.

Table 3.10: Housing tenure by family type, Perth, 1996
Per cent

Family type	Owner/Purchaser	Government Rental	Private Rental	Other	Total
Single parent family: with dependent children	47.8	14.1	36.3	1.5	100.0
Single parent family: with no dependent children	74.1	9.7	14.7	1.4	100.0
Couple family without children	81.8	2.5	13.8	1.8	100.0
Couple family with dependent children	84.2	2.3	12.4	1.1	100.0
Couple family with no dependent children	90.7	2.4	5.9	1.0	100.0
Other families	53.0	3.5	39.5	4.1	100.0
Total	**79.3**	**4.0**	**15.3**	**1.4**	**100.0**

Source: ABS Census 1996 Basic Community Profile Table B25

Map 3.5
Single parent families, Perth, 1996
as a percentage of all families in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Single parent families, 1996

State/Territory comparison

In 1996, 10.6 per cent of all families in the non-metropolitan areas of New South Wales were single parent families (defined here as single parent families with dependent children under 15 years of age), compared with 9.3 per cent in **Sydney**. This figure is just above the average of 10.0 per cent across the non-metropolitan areas of Australia (the *Rest of State/Territory* category in **Table 3.11**) and the second highest after the Northern Territory. For most States and the Northern Territory, variations between the *Capital city* and *Rest of State/Territory* totals were minimal, with the largest differences being in South Australia and Tasmania. There has been a steady increase in the proportions of single parent families in all States and Territories since 1986.

Table 3.11: Single parent families, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	9.3	9.1	10.5	10.4	10.1	12.1	13.8	11.5[2]	9.7
Other major urban centres[3]	10.4	10.7	11.2	..	..	..	..	..	10.7
Rest of State/Territory	10.6	9.5	10.1	8.4	9.5	9.6	14.6	–[4]	10.0
Whole of State/Territory	9.8	9.2	10.4	9.9	10.0	10.6	14.2	11.6	9.9
1986									
Rest of State/Territory	8.0	6.7	7.7	6.5	8.3	7.6	12.1	–[4]	7.6

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

Single parent families comprised 9.6 per cent of families in the non-metropolitan areas of Western Australia in 1996, compared with 10.1 per cent in **Perth**. There were high proportions of single parent families in several regions throughout the State (**Map 3.6**), with many SLAs recording higher proportions than in any SLA in **Perth**.

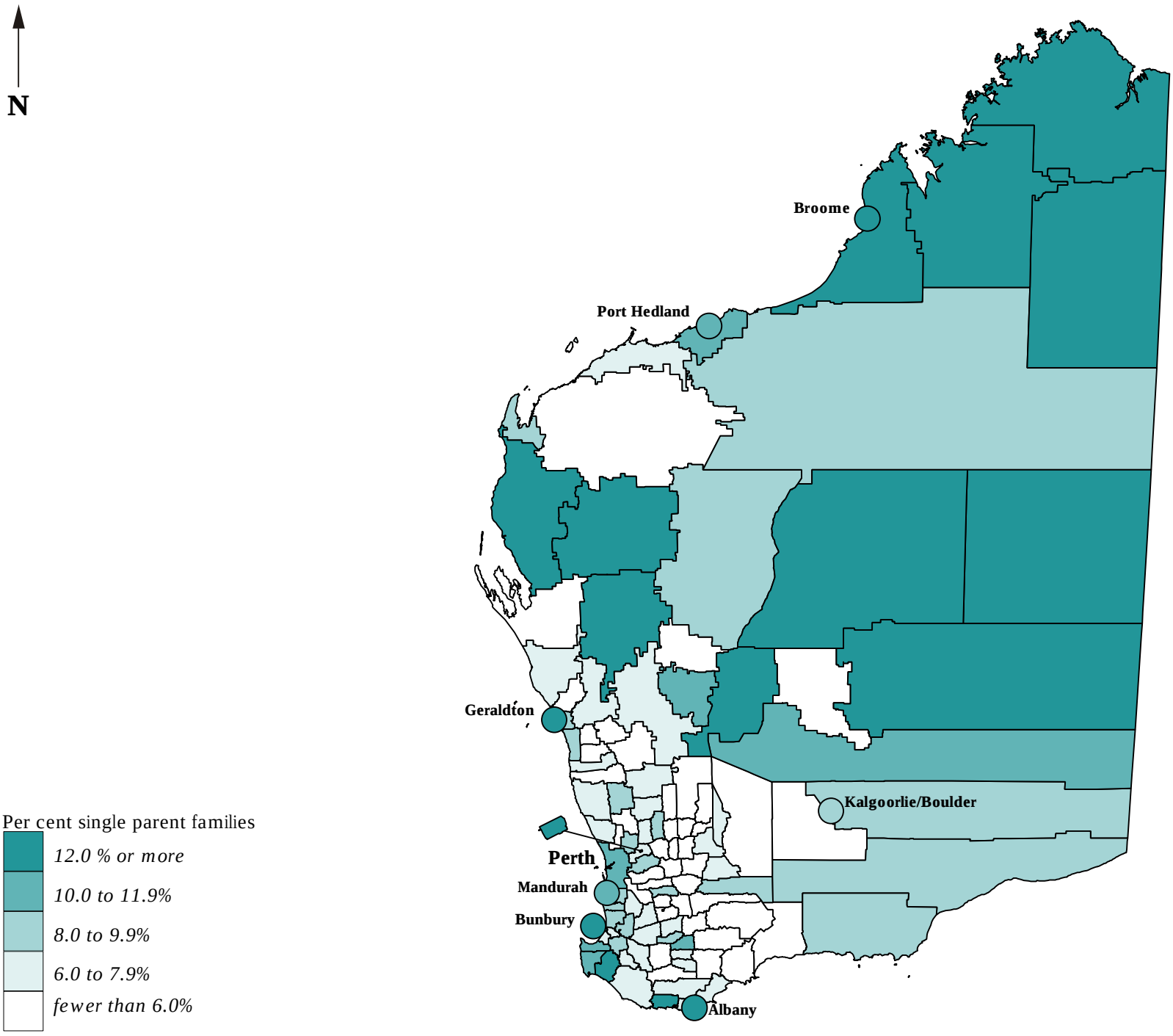
The highest proportion of single parent families was in Wiluna (22.3 per cent), and there were proportions of 15 per cent or more in Derby-West Kimberley (22.1 per cent), Halls Creek (21.3 per cent), Ngaanyatjarraku (20.8 per cent) and Upper Gascoyne (20.0 per cent), Laverton (17.9 per cent), Broome (17.1 per cent), Wyndham-East Kimberley (16.7 per cent) and Nannup (15.6 per cent).

Lower proportions were generally located towards the eastern margins of the State's wheat belt, and in a few isolated SLAs in the Central and Pilbara regions of the State. These included Cranbrook (0.9 per cent), Jerramungup (1.8 per cent), Lake Grace (2.0 per cent), Brookton (2.1 per cent), Victoria Plains and Tammin (both 2.3 per cent) and Mingenew (2.5 per cent).

The largest numbers of single parent families were located in towns. Mandurah, with 1,181 single parent families, was the only SLA in the non-metropolitan areas of Western Australia with more than 1,000 of these families. However, relatively large numbers were also located in Bunbury (886 single parent families), Geraldton (663), Kalgoorlie/Boulder (590) and Albany (525). A further 14 SLAs had between 200 and 500 single parent families. These included Busselton (466 single parent families), Harvey (355), Broome (353) and Esperance (300).

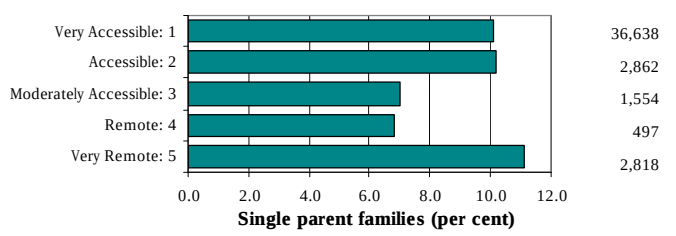
There were correlations of meaningful significance at the SLA level with the variables for Indigenous Australians (0.66) and low income families (0.52), and a correlation of substantial significance with the variable for dwellings without a motor vehicle (0.71). There was a weaker association with the variable for housing authority rented dwellings (0.49). There was also an inverse correlation of meaningful significance with the variable for managers and administrators, and professionals (-0.54). These results, together with the inverse correlation of substantial significance with the IRSD (-0.73), indicate the existence of an association at the SLA level between high proportions of single parent families and socioeconomic disadvantage.

Map 3.6
Single parent families, Western Australia, 1996
as a percentage of all families in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census ***Details of map boundaries are in Appendix 1.2***

Accessibility/Remoteness Index of Australia



The areas in the Very Remote category had the highest proportion of single parent families (11.1 per cent), with slightly lower proportions of 10.2 per cent and 10.1 per cent in the Accessible and Very Accessible categories, respectively. The lowest proportions were recorded in the Remote (6.8 per cent) and Moderately Accessible (7.0 per cent) categories. As for the earlier variables, the number of families is relatively high in the Very Remote areas.

Source: Calculated on ARIA classification, DHAC

Low income families, 1996

Capital city comparison

Low income families, defined as families with annual family incomes of less than $21,000 (less than $400 per week), comprised 17.7 per cent of all families in **Perth** for which income details were obtained at the 1996 Census (**Table 3.12**). The use of low income as a measure of poverty is compromised to an extent by the fact that income is influenced by differences in family size, age structure and housing tenure and costs. While the variable will normally capture most welfare dependent families, it will also include sizeable numbers of families for which low income is linked to their retirement status.

Adelaide had the highest (21.8) percentage of low income families, while **Darwin** (11.1 per cent) and **Canberra** (11.7 per cent) had much lower proportions, reflecting the younger age structures of these cities and the lower proportions of retired families in their populations. Overall, there has been an increase in the proportion of low income families in all capital cities in the ten years from 1986 to 1996. Refer to the footnote to **Table 3.3** on page 18 regarding the interpretation of these comparisons over time.

Table 3.12: Low income families, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	16.6	17.2	18.0	21.8	17.7	20.2	11.1	11.7	17.5
1986	15.7	14.3	16.9	19.2	17.4	17.3	10.6	8.8	15.8

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

In 1996, there were 58,398 low income families in **Perth**. Between 1991 and 1996, their numbers had increased by 20.8 per cent, compared with an increase of 17.2 per cent between 1986 and 1991 (from 48,354 to 41,247 low income families)[1].

Within **Perth,** three SLAs had proportions of above 25 per cent of families in this category. Belmont (25.3 per cent) and Perth (25.0 per cent) were located centrally, while Kwinana (25.4 per cent) is located to the south of the city. Nearly 30 per cent of SLAs had between 20.0 and 25.0 per cent of all families which were low income families. The distribution of these SLAs extends from the inner areas, northwards into Stirling: Central and Wanneroo: South-East, including the SLAs of the City of Perth (25.0 per cent), Victoria Park (24.4 per cent), Stirling: Central (24.0 per cent), Fremantle (23.8 per cent) and Bassendean (22.5 per cent). These families were also found in the SLAs of Fremantle (23.8 per cent) and Rockingham (22.2 per cent). Much lower proportions were found in the more peripheral SLAs extending in a crescent from Wanneroo: North-East (16.8 per cent) in the north-west, clockwise around to Serpentine-Jarrahdale (15.8 per cent) in the south-east (**Map 3.7**).

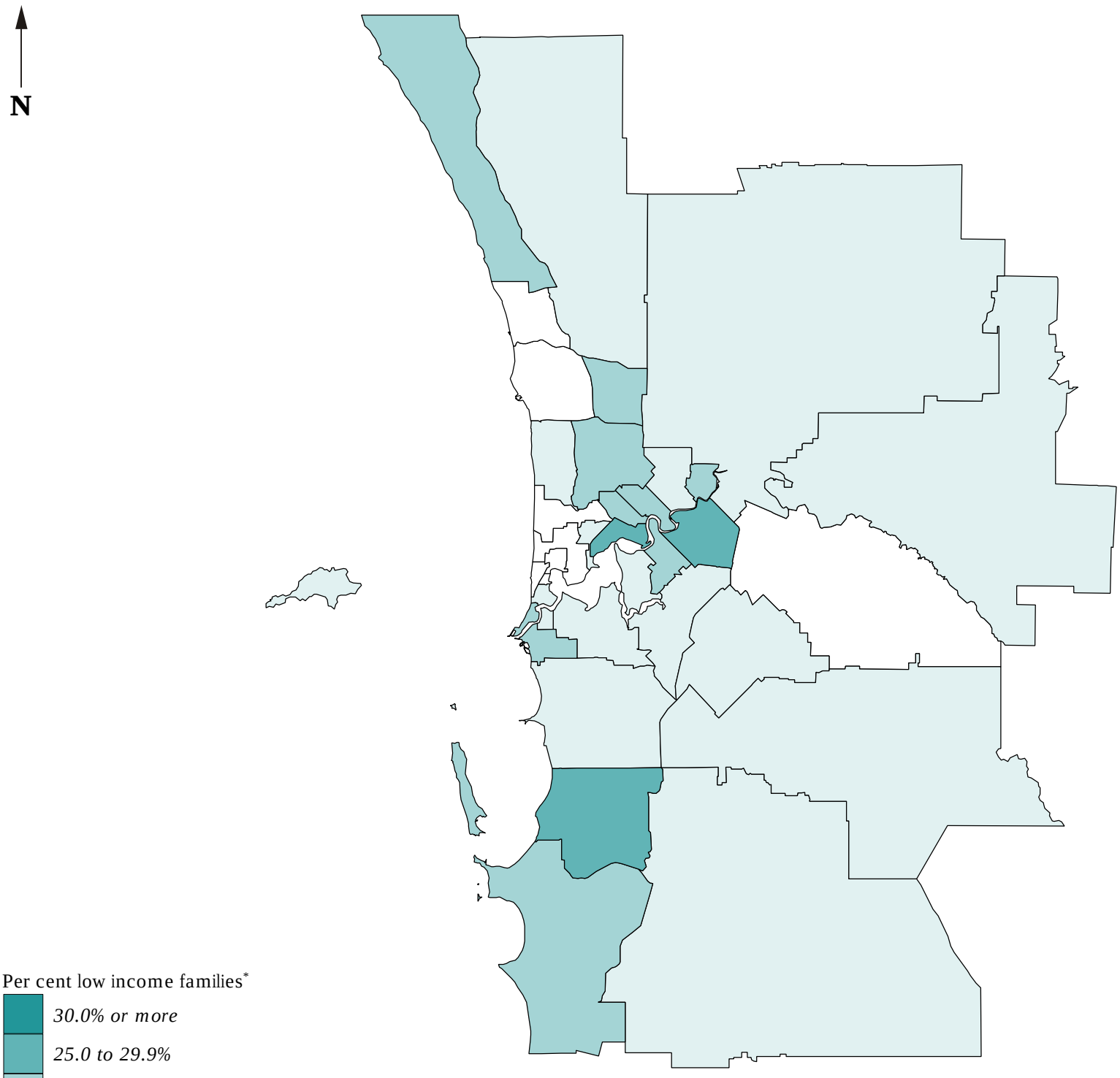
The lowest proportions were recorded in SLAs situated between the Swan River and the coast, including Peppermint Grove (5.9 per cent), Nedlands (9.6 per cent), Cambridge (9.8 per cent), Cottesloe (10.3 per cent) and Claremont (12.3 per cent). Several kilometres to the north, Wanneroo: South-West (11.6 per cent) and Wanneroo: Central Coastal (12.4 per cent) had slightly higher proportions of low income families. To the west of the city, Kalamunda also had relatively low levels of these families, with 13.8 per cent.

The SLAs of Stirling: Central (5,933 families), Melville (3,745), Rockingham (3,694), Gosnells (3,557), Wanneroo: South-West (3,377), Swan (3,299) and Canning (3,079) each had more than 3,000 families with incomes of less than $21,000 per annum. The low income families in these seven SLAs represented almost half (45.7 per cent) of all low income families in **Perth**. Four other SLAs (Bayswater, Stirling: Coastal, Armadale and Cockburn) each had more than 2,000 low income families.

There were correlations of substantial significance at the SLA level between high proportions of low income families and the variables for unemployed people (0.90), single parent families (0.78) and housing authority rented dwellings (0.77), as well as correlations of meaningful significance with unskilled and semi-skilled workers (0.69), early school leavers (0.68) and the Indigenous population (0.67). There was an inverse correlation of substantial significance with high income families (-0.88) and of meaningful significance with managers and administrators, and professionals (-0.69). These results, together with the inverse correlation of substantial significance with the IRSD (-0.91) indicate the existence of an association at the SLA level between high proportions of low income families and socioeconomic disadvantage.

[1] See footnote to Table 3.3, page 18 regarding these comparisons.

Map 3.7
Low income families*, Perth, 1996
as a percentage of all families in each Statistical Local Area



Per cent low income families*

- *30.0% or more*
- *25.0 to 29.9%*
- *20.0 to 24.9%*
- *15.0 to 19.9%*
- *fewer than 15.0%*

*Families with annual income of less than $21,000 as a percentage of all families for which income data were obtained

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Low income families, 1996

State/Territory comparison

The proportion of low income families (families with annual family incomes of less than $21,000) living outside of **Perth** is, at 20.6 per cent, the lowest of all the non-metropolitan areas (**Table 3.13**): the Northern Territory had the next lowest proportion, with 21.6 per cent. These low levels are likely to reflect income levels associated with employment opportunities in the dominant economic activities of Western Australia and the Northern Territory, such as mining, pastoralism and transportation. The highest proportions of low income families in all States and the Northern Territory were in the areas outside the capital cities and other major urban centres.

Over the ten years from 1986 to 1996, the proportion of low income families has declined marginally as a proportion of all families in Western Australia, from 18.7 per cent to 18.5 per cent. This is in contrast to the increase experienced for Australia as a whole, from 18.7 per cent to 20.0 per cent of all families. Refer to the footnote to **Table 3.3** on page 18 regarding the interpretation of these comparisons over time.

Table 3.13: Low income families, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	16.6	17.2	18.0	21.8	17.7	20.2	11.1	11.2[2]	17.5
Other major urban centres[3]	23.6	22.6	22.4	..	..	..	..	..	23.0
Rest of State/Territory	26.5	24.2	23.6	26.2	20.6	25.7	21.6	–[4]	24.6
Whole of State/Territory	20.0	19.1	20.8	22.9	18.5	23.5	16.6	11.2	20.0
1986									
Rest of State/Territory	26.7	21.9	25.0	25.9	22.1	22.3	20.5	–[4]	24.8

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

In the non-metropolitan areas of Western Australia, 23,904 families reported incomes of less than $21,000 per annum in 1996. This represents an increase of 8.9 per cent on the number at the 1991 Census, following an increase between 1986 and 1991 of 10.6 per cent (from 19,860 to 21,962). Although there has been a steady increase in numbers, low income families have declined as a proportion of all families, from 22.1 per cent in 1986 to 20.6 per cent in both 1991 and 1996; it remains, however, well above the rate in **Perth**. As mentioned, caution must be taken when interpreting these figures over time.

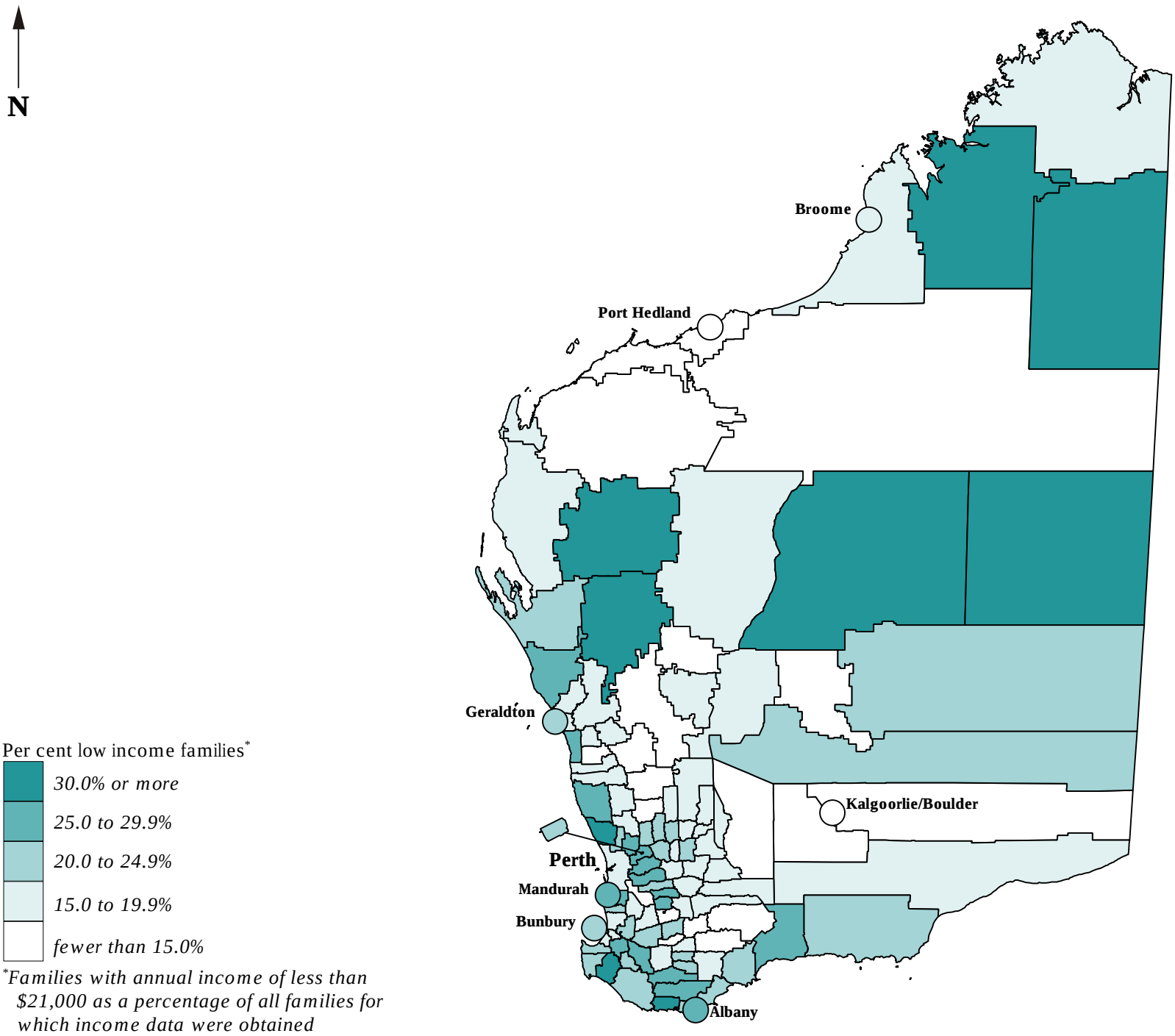
Map 3.8 shows the distribution of low income families in the non-metropolitan areas of Western Australia. The highest proportions were located in the more remote areas of the State, with the exception of areas in which resource exploration or extraction activities are located. In these areas, the low incidence of low income families was clearly related to the skills required for employment in these activities. For example, in the Pilbara region, the SLAs of Ashburton (4,5 per cent), Roebourne (5.6 per cent), Port Hedland (9.2 per cent) and East Pilbara (11.8 per cent) had low proportions.

In contrast, there were SLAs immediately to the north and south of these areas with extremely high proportions of low income families. The SLA of Ngaanyatjarraku had 53.8 per cent of its families with low incomes, the highest proportion in the State, with proportions of more than 30 per cent in Halls Creek (38.2 per cent), Upper Gascoyne (32.7 per cent) and Derby-West Kimberley (30.3 per cent).

Although SLAs with the highest proportions of low income families were located in the more remote, rural areas of the State, SLAs with the largest numbers were, with the exception of the towns of Geraldton (23.2 per cent), Esperance (22.0 per cent) and Kalgoorlie/Boulder (9.5 per cent), located in towns in the south-west corner of the State. The largest proportion was in Mandurah, where 3,153 low income families were located. However, each of Albany, Busselton and Bunbury had more than 1,000 low income families resident, and Harvey, Murray, Manjimup and the Shire of Albany each had more than 500 low income families.

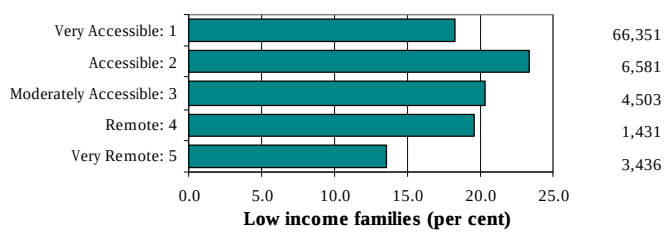
There were correlations of meaningful significance at the SLA level with the variables for single parent families (0.52) and dwellings with no motor vehicle (0.51) and an inverse correlation of substantial significance with high income families (-0.72). These results, together with the inverse correlation of meaningful significance with the IRSD (-0.64), indicate the existence of an association at the SLA level between high proportions of low income families and socioeconomic disadvantage.

Map 3.8
Low income families*, Western Australia, 1996
as a percentage of all families in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census ***Details of map boundaries are in Appendix 1.2***

Accessibility/Remoteness Index of Australia



	Families
Very Accessible: 1	66,351
Accessible: 2	6,581
Moderately Accessible: 3	4,503
Remote: 4	1,431
Very Remote: 5	3,436

There is a clear gradient in the proportions of low income families across the ARIA categories, from the highest in the Accessible areas (23.4 per cent and higher than the 8.4 per cent in the Very Accessible areas), to the lowest in the Very Remote areas (13.6 per cent). Again, the number in the Very Remote ARIA category is relatively high.

Source: Calculated on ARIA classification, DHAC

Unskilled and semi-skilled workers, 1996

Capital city comparison

Occupation remains the most important determinant of wealth, social standing and well-being for most people in Australian society. People employed in the Census defined occupations of labourers and related workers, and intermediate production and transport workers, are described generally in this analysis as unskilled and semi-skilled workers. These categories of occupation encompass most lower paid and less skilled, blue collar work and their prevalence therefore forms a useful general measure of low socioeconomic status. The percentages of workers employed in these occupations are calculated as a proportion of the total employed labour force.

The majority of capital cities, including **Perth** with 15.7 per cent, had near average percentages for this variable (**Table 3.14)**. **Adelaide** had the highest proportion with 17.3 per cent. The lower percentages in **Darwin** (13.2) and **Canberra** (9.4) were a reflection of low levels of manufacturing industry.

There has been a consistent decline in both the numbers and proportions of unskilled and semi-skilled workers nation-wide in the decade since 1986. The overall decline for Australia's capital cities was from 20.9 per cent of all people with an occupation in 1986, to 17.8 per cent in 1991 and 15.6 per cent in 1996, a net loss 110,506 of these occupations.

Table 3.14: Unskilled and semi-skilled workers, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**14.9**	**16.4**	**16.5**	**17.3**	**15.7**	**14.5**	**13.2**	**9.3**	**15.6**
1986	**20.7**	**22.1**	**21.6**	**21.6**	**20.3**	**19.4**	**15.1**	**12.3**	**20.9**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth[2]

Between 1986 and 1991, the number of unskilled and semi-skilled workers employed in **Perth** decreased by 2.8 per cent, from 86,262 to 83,867, before increasing to the 1996 level of 87,151 people. However, their proportion of the employed labour force declined substantially over this ten year period.

The distribution of unskilled and semi-skilled workers in **Perth** (see **Map 3.9**) corresponds with that found in most Australian capital cities, with the highest concentrations in the middle and outer suburbs. In contrast, the lowest concentrations were closer to the city**,** located in a sector north of the Swan River and between the city and the coast.

Ten SLAs on **Perth's** urban fringe had 20 per cent or more of their employed labour force in these occupations, the highest being 29.9 per cent in Kwinana. The other SLAs with high proportions were Wanneroo: South-East (24.8 per cent), Belmont (23.8), Gosnells (23.1), Cockburn (22.4 per cent), Armadale and Rockingham (both 22.3 per cent), Serpentine-Jarrahdale (21.8 per cent), Swan (21.6 per cent) and Wanneroo: North-West (21.4 per cent).

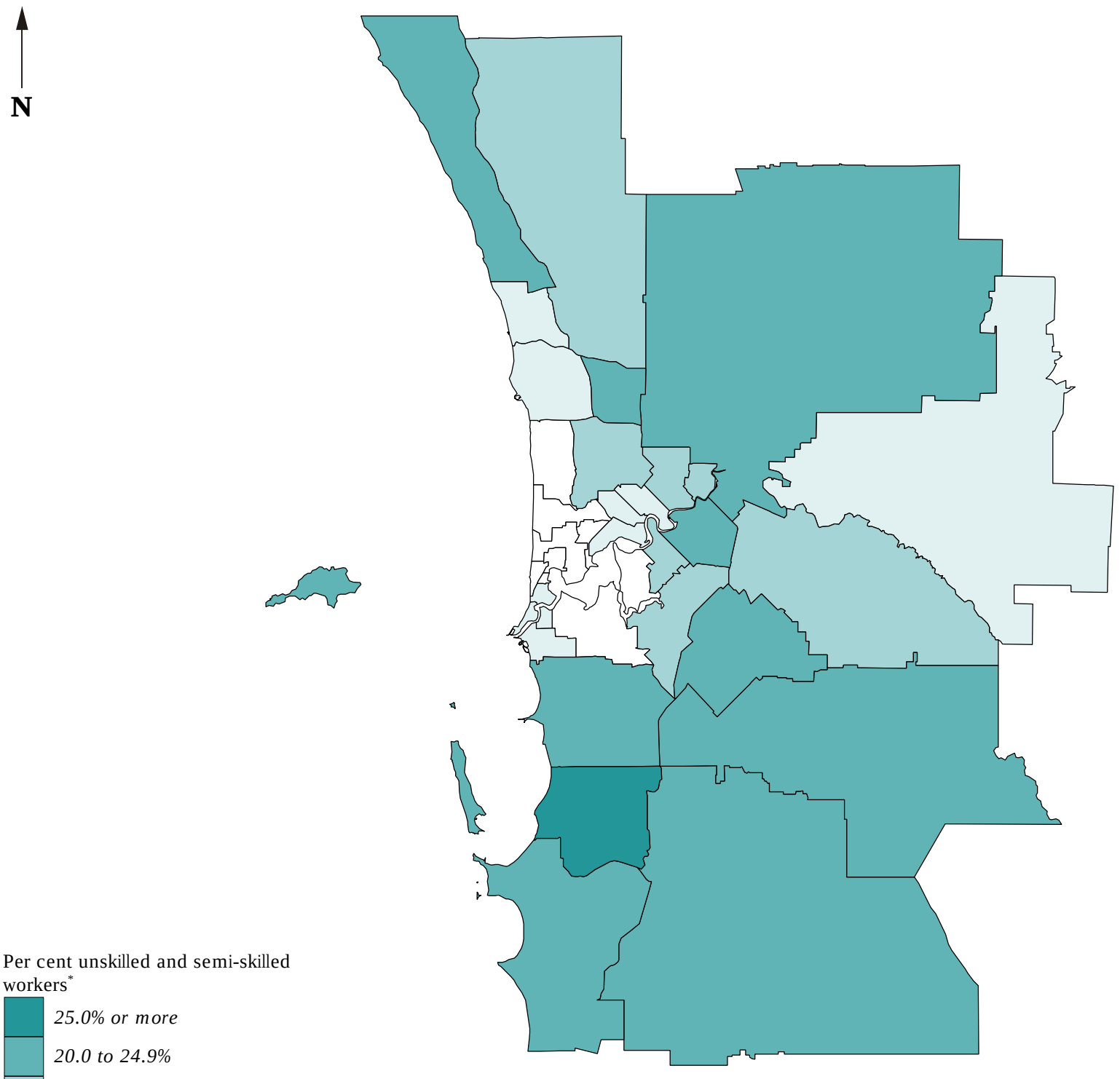
The lowest proportions were recorded in the high socioeconomic status areas of Peppermint Grove and Cottesloe (both 5.0 per cent), Nedlands (5.2 per cent), Claremont (5.3 per cent), Cambridge (6.4 per cent) and Subiaco (6.8 per cent).

Just over one third of unskilled and semi-skilled workers were located in five SLAs. The largest, Stirling: Central, had 7,662 people in these occupations. Other SLAs with more than 5,000 unskilled and semi-skilled workers were Gosnells (7,353 people), Swan (6,184), Wanneroo: South-West (6,013) and Cockburn (5,493). A further seven SLAs (Canning, Rockingham, Armadale, Melville, Kalamunda, Bayswater and Wanneroo: South-East) each had more than 3,000 unskilled and semi-skilled workers.

There were correlations of substantial significance with the variables for early school leavers (0.96), children aged from 0 to 4 years (0.86) and the Indigenous population (0.81), and inverse correlations with managers and administrators, and professionals (-0.96) and high income families (-0.91). These results, together with the inverse correlation of substantial significance with the IRSD (-0.92), indicate the existence of an association at the SLA level between high proportions of unskilled and semi-skilled workers and socioeconomic disadvantage.

[2]Because these categories do not appropriately reflect the occupational status of country residents, this variable has not been mapped for areas outside of the major urban centres.

Map 3.9
Unskilled and semi-skilled workers*, Perth, 1996
as a percentage of the total employed labour force in each Statistical Local Area



Per cent unskilled and semi-skilled workers*

- *25.0% or more*
- *20.0 to 24.9%*
- *15.0 to 19.9%*
- *10.0 to 14.9%*
- *fewer than 10.0%*

*Consists of ABS occupation groups 'intermediate production and transport workers' and 'labourers & related workers'

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Unemployed people, 1996

Capital city comparison

At the 1996 Census, 771,972 Australians reported being unemployed and looking for work, of whom 463,429 resided in Australia's capital cities. More than a quarter of the *All capitals* unemployed lived in **Sydney** (134,857 people), 7.4 per cent of **Sydney's** labour force. The unemployment rate in the other capital cities ranged from 7.5 per cent in **Canberra** (13,062 people, and a considerably higher rate than in 1986 when it was 4.8 per cent) to 10.6 per cent in **Adelaide** (51,662 people) (**Table 3.15**). The *All capitals* unemployment figure varied greatly over the ten years to 1996, rising considerably from 8.2 per cent in 1986, to 11.2 per cent in 1991, before declining to the 1996 rate of 8.5 per cent.

It is important to note that these figures can understate the true extent of unemployment because they do not report hidden unemployment and under-employment. Hidden unemployment results from people not recording themselves at the Census as unemployed, as they felt they did not fit the 'looking for work' requirement, often having been discouraged from doing so by the difficulty of obtaining employment. Hidden unemployment is less prevalent at the Census where people 'self-report' than in the official unemployment figures published by the ABS, which are based on data where the 'looking for work' and strict 'availability to work' definitions are applied more rigorously by personal interviewers in the monthly ABS Population Survey. Under-employment refers to those who have jobs but are working fewer hours than they would prefer. Women predominate in both of these categories, as do those who are socioeconomically disadvantaged.

These figures are based on self-report information in the Census. As it is unclear how Indigenous people would record their involvement in CDEP schemes it may be more appropriate to use the information for unemployment beneficiaries, page 94, which includes details of those schemes.

Table 3.15: Unemployed people, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**7.4**	**9.1**	**8.8**	**10.6**	**8.3**	**9.7**	**7.7**	**7.5**	**8.5**
1986	**8.6**	**6.6**	**9.5**	**9.5**	**9.5**	**9.1**	**9.7**	**4.8**	**8.2**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth

At the 1996 Census, 49,925 people in **Perth** were unemployed, 29.9 per cent fewer than at the 1991 Census, a trend also evident for the other capital cities. This was in contrast to the trend between 1986 and 1991, when the numbers of unemployed people increased by 60 per cent, from 44,477 to 71,141. Unemployment in **Perth** for 15 to 19 year olds increased between 1986 and 1991, from 9,321 (an unemployment rate of 18.2 per cent) to 11,403 (23.3 per cent), but had declined to 7,652 (15.0 per cent) by 1996. The 1996 youth unemployment figure was almost twice the rate for unemployed people of all ages in **Perth**.

High proportions of unemployed people were concentrated in three key locations within the **Perth** metropolitan area, in the Fremantle and Port area, in the industrialised coastal SLAs south of Fremantle, and in the relatively low cost land urban areas extending from Victoria Park northwards through Stirling to Wanneroo (**Map 3.10**). These areas had between 10 and 15 per cent of their labour force unemployed in 1996.

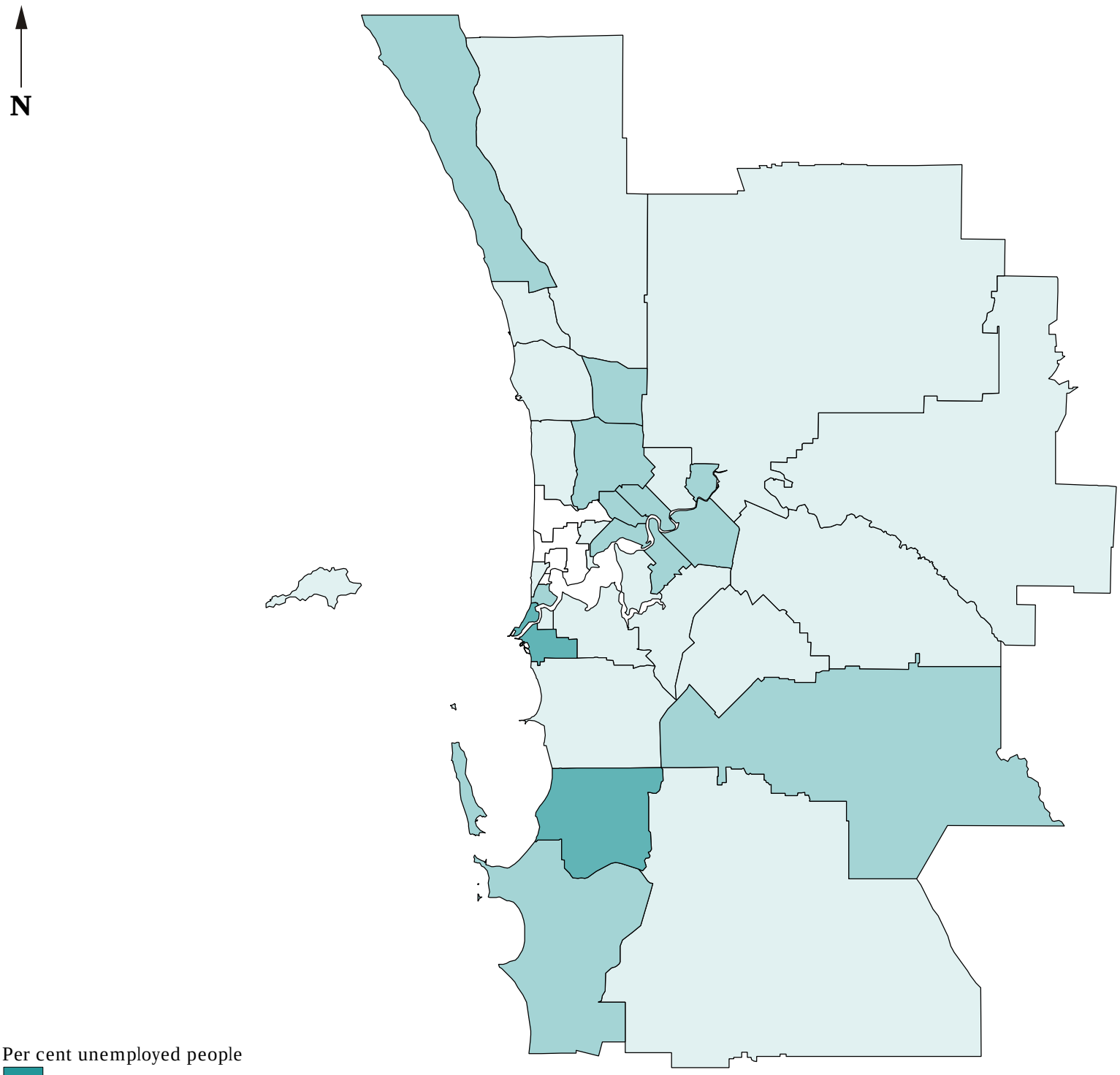
The highest proportions were in the SLAs of Kwinana (13.2 per cent), Fremantle (12.2 per cent), Stirling: South-Eastern (11.7 per cent), Wanneroo: North-West (11.6 per cent), the City of Perth (11.1 per cent), Wanneroo: South-East (11.0 per cent), Rockingham, Stirling: Central and Victoria Park (all 10.5 per cent) and Vincent (10.2 per cent).

Given the general relationship between unemployment and socioeconomic status, it is to be expected that lower levels of unemployment would prevail in the higher socioeconomic status areas of **Perth**. This was the case, with the lowest rates being in Peppermint Grove (4.5 per cent of the labour force unemployed at the 1996 census) and Nedlands and Cambridge (both 4.7 per cent).

There was a strong relationship between SLAs with high numbers of unskilled and semi-skilled workers also showing high levels of unemployment. The largest number of unemployed people, 4,745, was found in Stirling: Central, with 3,334 unemployed people in Wanneroo: South-West and 3,218 in Gosnells. These three SLAs comprised almost one quarter (22.6 per cent) of the unemployed people living in **Perth**.

There were correlations of substantial significance at the SLA level between high levels of unemployment and the variables for low income families (0.90), single parent families (0.79) and public rental housing (0.75), and of meaningful statistical significance with Indigenous Australians (0.63), unskilled and semi-skilled occupations (0.59), early school leavers (0.54) and dwellings with no motor vehicles (0.51). These results, together with the inverse correlation of substantial significance with the IRSD (-0.89), indicate the existence of an association at the SLA level between high proportions of unemployed people and socioeconomic disadvantage.

Map 3.10
Unemployed people, Perth, 1996
as a percentage of the total labour force in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Unemployed people, 1996

State/Territory comparison

The non-metropolitan areas of Western Australia had one of the lowest unemployment rates in 1996, just above the level recorded for the Northern Territory (**Table 3.16**), with the highest rates in Tasmania (11.0 per cent) and New South Wales (11.2 per cent). Although the unemployment rate in the *Rest of State /Territory* areas was lower in 1996 (10.1 percent) than in 1986 (10.8 per cent), the relativities between the States varied, with the largest declines in the Northern Territory, Queensland and New South Wales, and the largest increase in Victoria. These figures are based on self-report information in the Census. As it is unclear how Indigenous people would record their involvement in CDEP schemes it may be more appropriate to use the information for unemployment beneficiaries, page 96, which includes details of those schemes.

Table 3.16: Unemployed people, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	7.4	9.1	8.8	10.6	8.3	9.7	7.7	7.5[2]	8.5
Other major urban centres[3]	11.6	12.0	11.9	..	..	..	..	..	11.7
Rest of State/Territory	11.2	10.1	10.0	9.8	7.5	11.9	7.0	–[4]	10.1
Whole of State/Territory	8.8	9.4	9.6	10.4	8.1	11.0	7.4	7.3	9.2
1986									
Rest of State/Territory	12.6	8.0	12.2	9.6	9.2	10.6	12.0	–[4]	10.8

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

Unemployment levels in the non-metropolitan areas of Western Australia show a similar trend to those in **Perth**. Between 1986 and 1991, the proportion of unemployed people increased from 9.2 per cent of the employed population (17,356 people) to 11.1 per cent (23,375 people), before declining substantially to 7.5 per cent (16,927 people) in 1996.

As **Map 3.11** shows, most of the State had relatively low levels of unemployment, particularly in the wheat belt and the low rainfall interior regions. With only a handful of exceptions, the highest unemployment rates were confined to SLAs located near the coastline, from Broome in the north to Esperance in the south-east. The highest level of unemployment in 1996 was recorded in Irwin with 16.9 per cent of its labour force unemployed at the Census. Gingin, to the north of **Perth**, and Mandurah, to the south, had the next highest unemployment levels, at 14.2 per cent and 14.1 per cent respectively.

Generally, the largest numbers of unemployed people were situated in towns, such as Mandurah (which had the largest number of unemployed residents, with 2,061 people), Bunbury (1,229), Geraldton (1,101) and Kalgoorlie/Boulder (913).

Age and sex are important influences on unemployment levels (**Table 3.17**). Firstly, youth unemployment was generally higher for males than females (the exception being for 15 to 19 year old females in the *Rest of State*) and higher in **Perth** than in the *Rest of State* (again, the exceptions were 15 to 19 year old females as well as both males and females aged 65 years and over). Secondly, unemployment decreased with age until 55 years. Again, females resident outside **Perth** provide the exception, with the unemployment level declining across all ages.

There were weak associations evident in the correlation analysis with the variables for people aged 65 years and over (0.46), low income families (0.39) and migrants born in predominantly non-English speaking countries, resident for five years or more (0.33) and early school leavers (0.26). There was also a weak inverse correlation with the variable for managers and administrators, and professionals (-0.42). These results, together with the weak inverse correlation with the IRSD (-0.30), suggest the existence an association at the SLA level between high proportions of unemployed people and socioeconomic disadvantage.

Table 3.17: Unemployment rates by age and sex, Western Australia, 1996

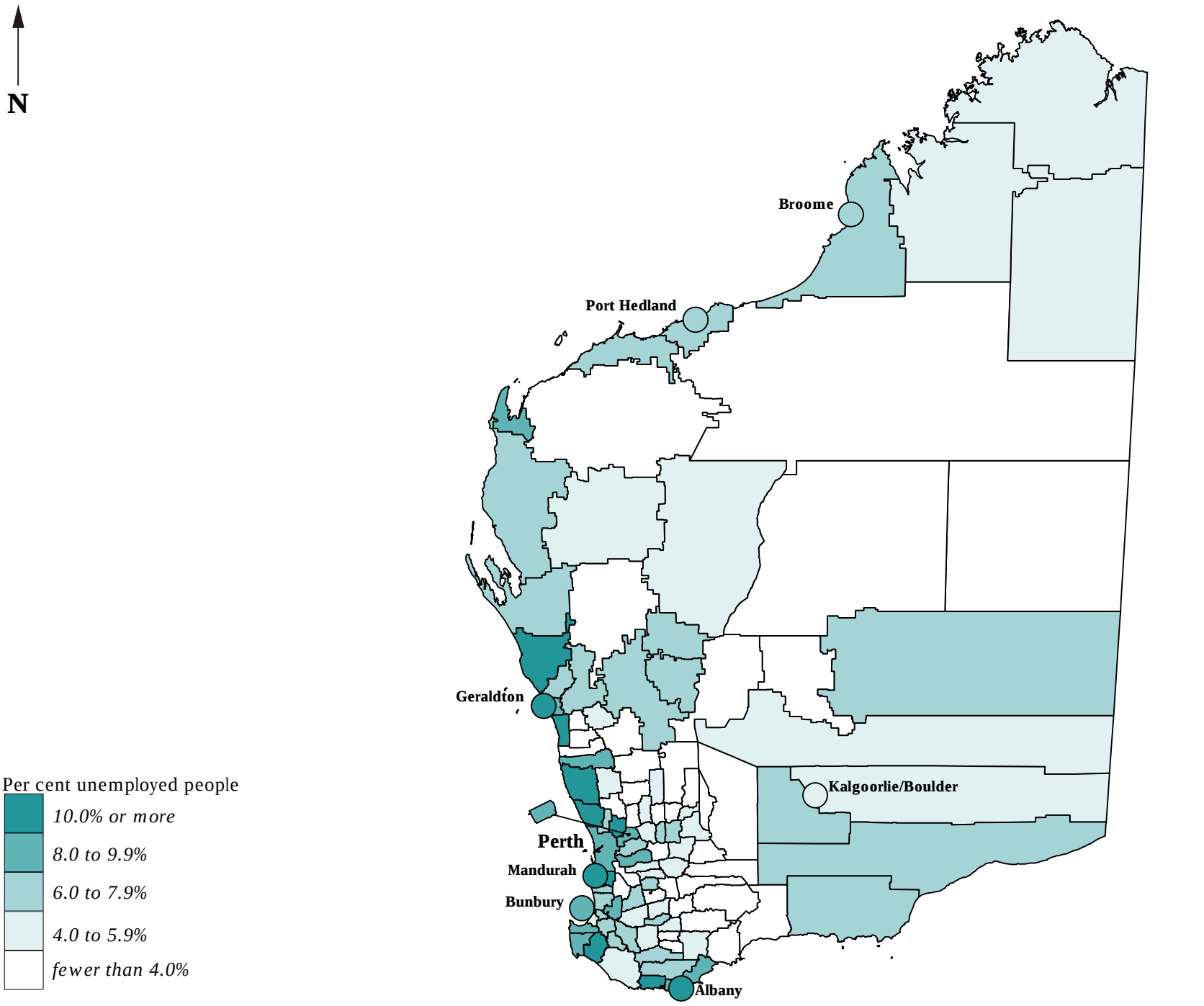
Per cent

Age group (years)	Per cent male labour force unemployed		Per cent female labour force unemployed	
	Perth	Rest of State	Perth	Rest of State
15 to 19	15.8	14.8	14.3	16.0
20 to 24	14.9	12.0	11.3	10.8
25 to 34	9.4	8.0	7.1	7.5
35 to 44	6.7	5.7	5.4	5.3
45 to 54	5.7	5.1	4.6	4.9
55 to 64	9.8	8.7	5.0	4.3
65 & over	3.9	2.2	5.0	2.8
Total	**9.1**	**7.7**	**7.3**	**7.2**

Source: ABS Census 1996 Basic Community Profile Table B25

Map 3.11
Unemployed people, Western Australia, 1996

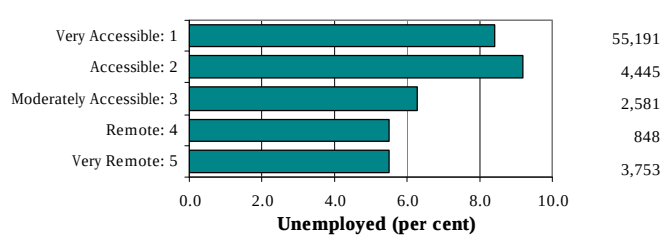
as a percentage of the total labour force in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



There is a clear gradient in unemployment rates across the ARIA categories, from the highest in the Accessible areas (9.2 per cent and higher than the 18.3 per cent in the Very Accessible areas), to the lowest in the Very Remote areas (5.5 per cent). Despite the low proportion, the number of unemployed people in the Very Remote ARIA category is relatively high. Users should, however, note the caution (opposite) regarding the use of these figures, in particular for the most remote areas.

Source: Calculated on ARIA classification, DHAC

Female labour force participation, 1996

Capital city comparison

The marked increase in women's participation in paid work has been one of the most significant trends in Australian society in recent years. Women are both remaining in the work force longer (partly by delaying childbirth), and re-entering the workforce after childbirth, because of changes in social perceptions of the role of women and increased economic pressures on families. Female labour force participation is calculated here as the number of females in the labour force (employed plus unemployed and looking for work) as a proportion of all females in the population aged 20 to 54 years. The denominator is limited to the 20 to 54 year age group, as the participation rate for women under the age of 20 years is affected by differences in educational participation rates and for women aged 55 years and over by retirement rates, which are particularly high from age 55 years.

As **Table 3.18** shows, most cities had participation rates close to the average. The highest rates were in **Canberra** (almost seven percentage points higher than the average) and **Darwin**. The participation of women in the labour force in all capital cities increased between 1986 and 1996, with the largest increase occurring in **Brisbane**.

Table 3.18: Female labour force participation, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**69.3**	**69.8**	**69.4**	**69.1**	**68.3**	**68.9**	**70.7**	**76.3**	**69.5**
1986	**64.5**	**64.8**	**61.0**	**64.3**	**62.2**	**62.6**	**68.5**	**72.4**	**64.1**

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

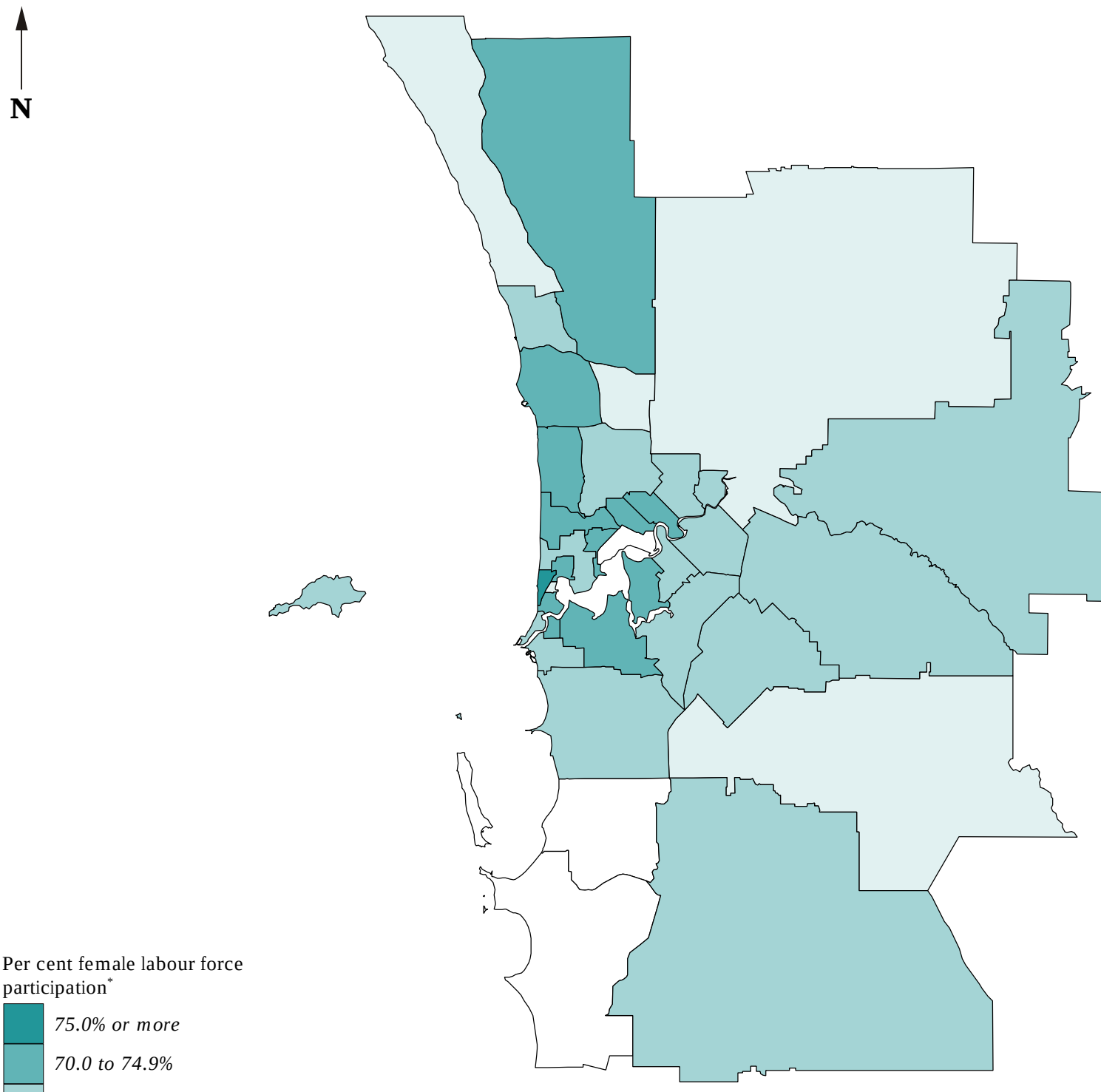
The marked increase in women's participation in paid work (noted above) is evident in **Perth**, where female labour force participation grew from 62.2 per cent at the 1986 Census to 67.3 per cent in 1991, with a further small increase to 68.3 per cent in 1996, when there were 224,685 women in the labour force.

The highest participation rate at the SLA level was in Cottesloe, with a female labour force participation rate of 77.4 per cent. This was the only SLA in **Perth** with a rate of above 75 per cent. In the zone surrounding the city centre, female labour force participation rates varying between 70 and 74.9 per cent were found on both sides of the Swan to include the SLAs of East Fremantle (74.5 per cent), Vincent (74.4 per cent), Stirling: South-Eastern (73.8 per cent), South Perth (72.5 per cent), Claremont (71.3 per cent), Subiaco (70.9 per cent), Melville (70.6) and Mosman Park (70.4 per cent); and in an area extending north to include the coastal SLAs of Stirling: Coastal (74.8 per cent), Cambridge (74.7 per cent), Wanneroo: South-West (73.6 per cent) and Wanneroo: North-East (70.4 per cent).

Generally, the lowest participation rates were found in SLAs quite distant from the city centre (**Map 3.12**), in an area from Wanneroo: North-West (61.4 per cent) to Swan (64.4 per cent), Rockingham (59.7 per cent) and Armadale (63.1 per cent). In these developing urban areas, the lowest female labour force participation rate was in Kwinana (a rate of 55.5 per cent). All of these SLAs had high proportions of single parent families, above the average for **Perth**.

There were inverse correlations of meaningful significance at the SLA level with the variables for unskilled and semi-skilled workers (-0.69), the Indigenous population (-0.64) and early school leavers (-0.53). These results, together with the correlation of meaningful significance with the IRSD (0.54), indicate the existence of an association at the SLA level between high rates of female labour force participation and high socioeconomic status.

Map 3.12
Female labour force participation*, Perth, 1996
as a percentage of all females aged 20 to 54 years in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Female labour force participation, 1996

State/Territory comparison

Female labour force participation is calculated here as the number of females in the labour force (employed plus unemployed and looking for work) as a proportion of all females in the population aged from 20 to 54 years.

The female labour force participation rate for Australia was 68.0 per cent in 1996, with most States and Territories having near average participation rates, ranging from 64.1 per cent in the Northern Territory, to 76.6 per cent in the Australian Capital Territory (**Table 3.19**). Within all of the States and Territories, female labour force participation rates were lower in the non-metropolitan areas than in the capital cities. This differential was particularly evident in the Northern Territory. The participation of women in the labour force increased substantially between 1986 and 1996, with the Australian participation rate increasing from 61.8 per cent in 1986 to 68.0 per cent in 1996. This increase was evident in every State and Territory.

Table 3.19: Female labour force participation, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	69.3	69.8	69.4	69.1	68.3	68.9	70.7	76.3[2]	69.5
Other major urban centres[3]	64.7	66.8	67.9	..	..	..	..	..	66.1
Rest of State/Territory	65.4	66.5	63.8	66.2	64.6	62.2	58.3	–[4]	64.8
Whole of State/Territory	67.8	69.0	67.0	68.4	67.3	65.1	64.1	76.6	68.0
1986									
Rest of State/Territory	58.0	60.1	55.3	60.7	56.8	55.4	56.6	-[4]	57.7

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

Movements in female labour force participation rates in the non-metropolitan areas of Western Australia between 1986 and 1996 mirrored those in **Perth**, increasing from 56.8 per cent in 1986, to 62.7 per cent in 1991 and to 64.6 per cent in 1996. Overall, there was an increase of 40.2 per cent, from 52,702 female labour force participants in 1986 to 73,902 in 1996.

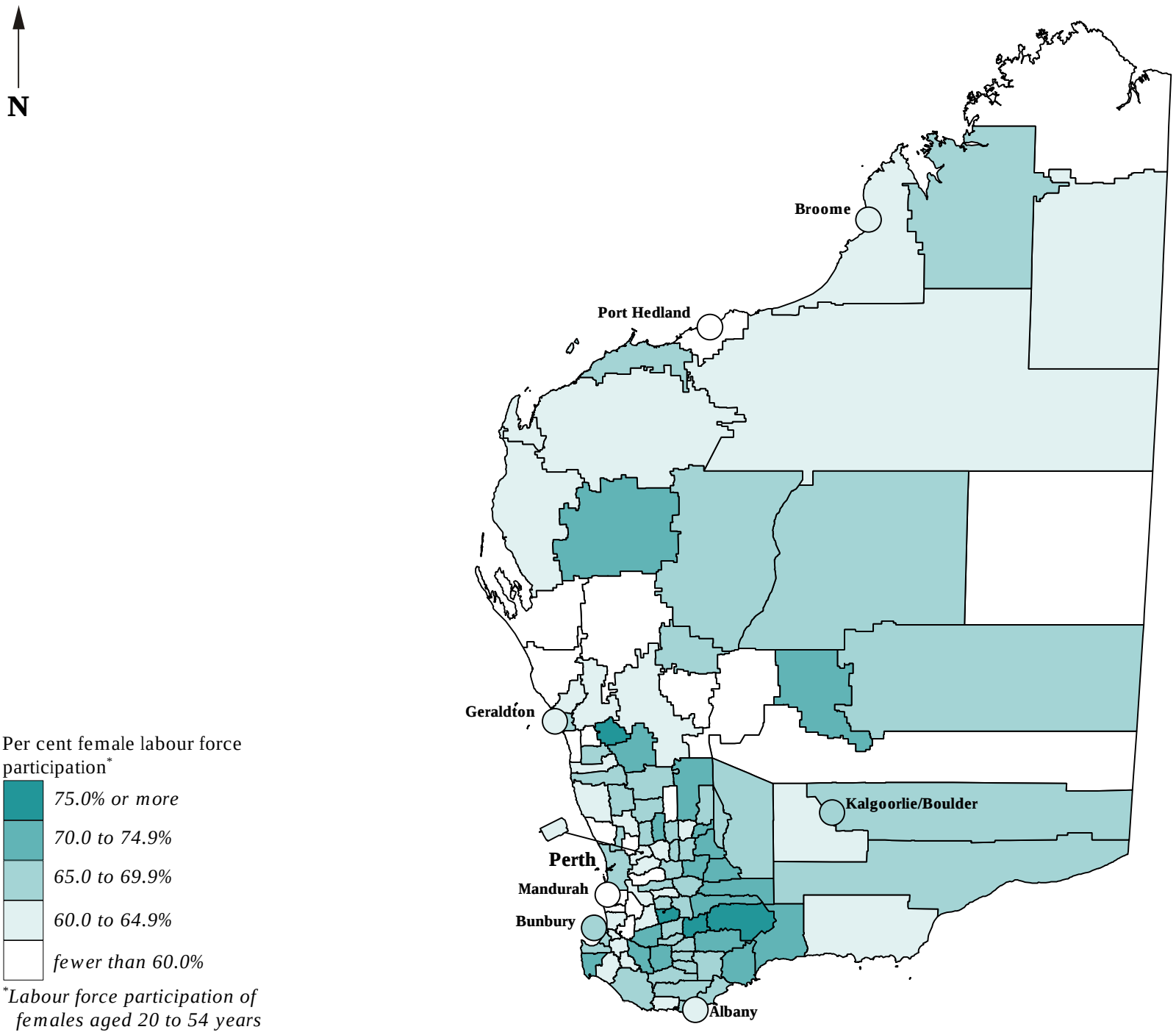
Although female labour force participation rates are lower in rural areas than in urban areas, it is clear from **Map 3.13** that substantial areas of the State have relatively high rates of participation of women in the workforce. Of the 113 SLAs outside of **Perth**, over half (63 SLAs; 55.7 per cent) had participation rates of greater than 65 per cent. Within this group, Narrogin (81.6 per cent), Morawa (78.7 per cent), Lake Grace (78.0 per cent) and Dumbleyung (77.2 per cent) each had rates of greater than 75 per cent. A further 18 SLAs, or 15.9 per cent of all SLAs in non-metropolitan Western Australia, had female labour force participation rates of between 70 and 74.9 per cent. In the main, these areas were located in the wheat belt agricultural area and the higher rainfall region of Western Australia. However, high levels were also found in the mining and pastoral areas of the State's south-eastern and central regions.

The lowest participation rates were generally confined to the more remote parts of the State, areas with high proportions of Indigenous people and a predominance of economic activities with low employment levels of women. The lowest of these participation rates were in Murchison (33.3 per cent), Ngaanyatjarraku (54.6 per cent) and Menzies (54.8 per cent).

The largest numbers of females participating in the labour force were in Kalgoorlie/Boulder (5,322 females), Mandurah (5,097), Bunbury (4,380), Geraldton (3,037), Busselton (2,764) and Roebourne (2,623).

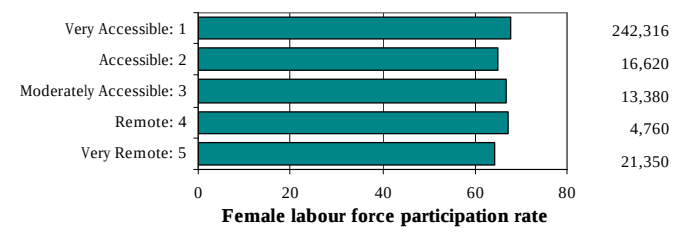
There were weak inverse correlations with the variables for single parent families (-0.34), low income families (-0.38), unemployed people (-0.32), the Indigenous population (-0.34) and private dwellings without a motor vehicle (-0.32). There was also a weak correlation with the variable for managers and administrators, and professionals (0.40). These results, together with the inverse correlation of meaningful significance with the IRSD (0.51), indicate the existence of an association at the SLA level between high rates of female labour force participation and high socioeconomic status.

Map 3.13
Female labour force participation*, Western Australia, 1996
as a percentage of all females aged 20 to 54 years in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census ***Details of map boundaries are in Appendix 1.2***

Accessibility/Remoteness Index of Australia



There are relatively high levels of female labour force participation across all of the ARIA categories, with the highest in the Very Accessible (67.8 per cent), Remote (67.2 per cent) and Moderately Accessible (66.7 per cent) areas. Participation rates were lowest in the Very Remote (64.4 per cent) and Accessible (65.0 per cent) areas. The second highest number of females participating in the labour force is in the Very Remote areas.

Source: Calculated on ARIA classification, DHAC

People who left school at age 15 years or less, or did not go to school, 1996

Capital city comparison (Australia as the Standard)

The age at which people cease their formal education does not determine absolutely how they will fare in life, but it does have a strong influence, not only on the ability to gain secure and rewarding employment but also on general life style. Differences in educational participation are examined in this analysis by comparing variations in the extent to which the population left school at age 15 or less, or did not go to school (jointly referred to as early school leavers). This variable has been age-sex standardised to remove differences in participation rates occurring between areas solely because of differences in the age and sex of the population in the areas being studied. A description of this process is on page 17. Among the capital cities, the highest standardised ratio (SR) of early school leavers was recorded in **Perth**, with 12 per cent more early school leavers than expected (an SR of 112**), and the lowest was recorded in **Canberra**, where the ratio of 68** indicated that there were 32 per cent fewer early school leavers than were expected from the Australian rates.

There was relatively little difference in the early school leaver ratios for 1986 and 1996 (**Table 3.20**), with some cities (**Sydney**, **Melbourne** and **Brisbane**) showing a small improvement (relative to the Australian rates) and others (eg. **Hobart** and **Darwin**) showing a relative decline as their rates moved closer to the Australian rates. The ratio for **Hobart** moved from below (in 1986) to above (1996) the *All capitals* ratio.

Table 3.20: People who left school at age 15 years or less, or did not go to school, capital cities
Age-sex standardised participation ratios

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**89****	**82****	**110****	**98****	**112****	**98****	**92****	**68****	**92****
1986	**92****	**85****	**112****	**98****	**112****	**92****	**88****	**69****	**94****

[1]**Includes Queanbeyan (C)**
Source: ABS special data services
Statistical significance: * significance at 5 per cent level; ** significance at 1 per cent level

Perth (Western Australia as the Standard)

Over the past decade, the areas with low participation in education have remained basically the same. Education data shows that children who leave school early continue to have low rates of participation in schooling beyond the age of compulsion, and low rates of continuation to higher education. There is a danger that the pattern of inequality of opportunity expressed in this map will continue, with a wide range of social health implications.

Variations within **Perth** in educational participation are a striking illustration of the links between education, occupation, income and wellbeing. As **Map 3.14** shows, there were two significant concentrations of early school leavers, located in the outer northern and the outer southern SLAs. On the other hand, low rates of early school leavers were found in the higher socioeconomic inner SLAs, situated in close proximity to the Swan River. Overall, there were 5 per cent fewer early school leavers in **Perth** than expected from the Western Australian State rates (an SR of 95**).

There were 32 per cent more early school leavers than were expected from the State rates in Kwinana (an SR of 132**), with ratios elevated, by 24 per cent and 20 per cent respectively in the adjacent SLAs of Serpentine-Jarrahdale (an SR of 124**) and Cockburn (120**). In Armadale, Gosnells, Rockingham, Wanneroo: North-East and Wanneroo: North-West, ratios ranged from 15 per cent to 19 per cent above the level expected.

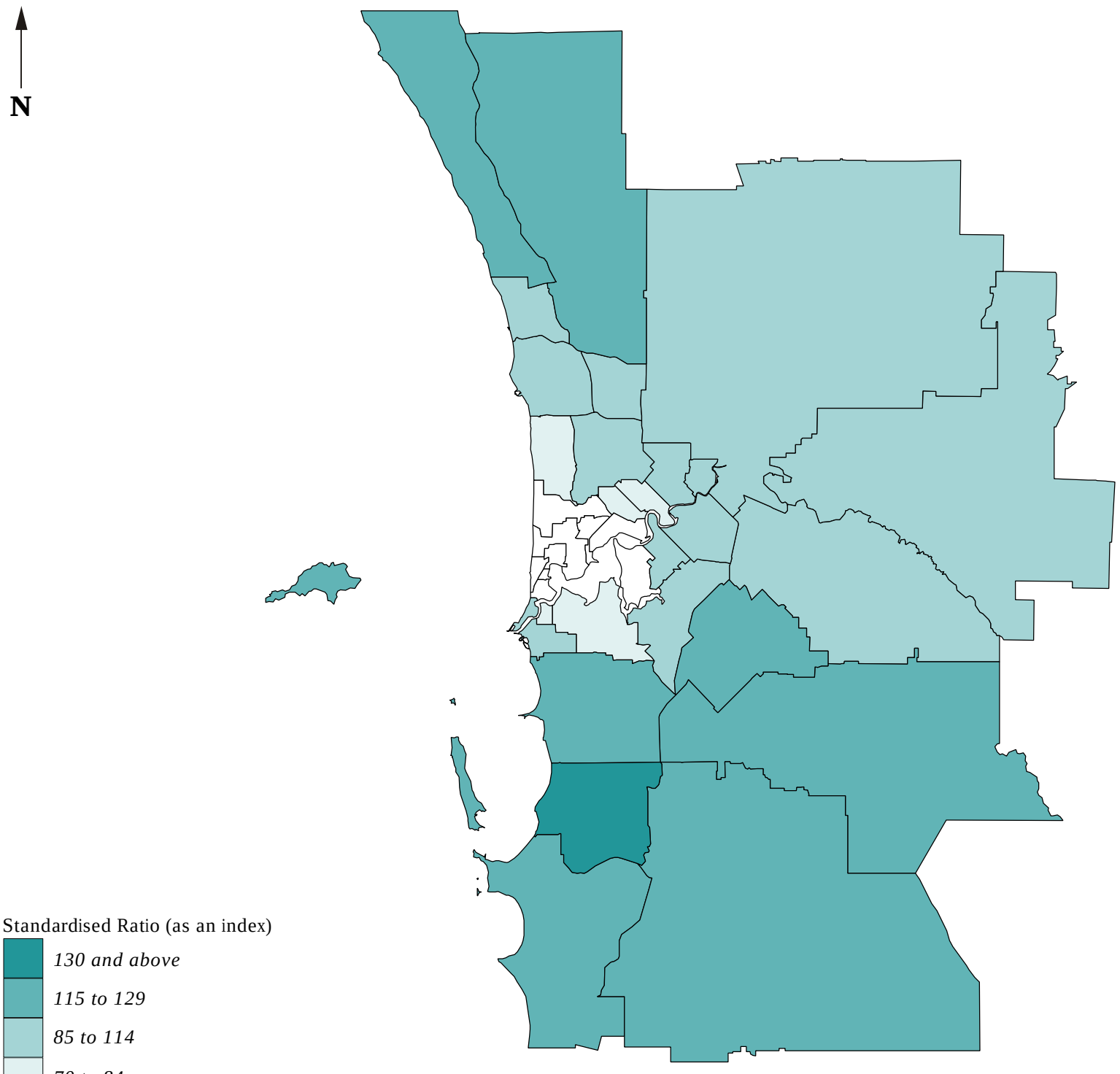
There were much lower ratios in higher socioeconomic SLAs such as Peppermint Grove (with an SR of 27**), Claremont and Cottesloe (both with 43**), Nedlands (46**) and Subiaco (49**), all with fewer than half the number of early school leavers expected from the State rates.

Stirling: Central had the largest number of people who left school at age 15 or less, or did not go to school, with 31,400. There were more than 20,000 early school leavers in each of Wanneroo: South-West (27,000 people), Gosnells (24,566), Melville (22,543), Swan (20,980) and Rockingham (20,248).

There were correlations of substantial significance at the SLA level the variables for 0 to 4 year old children (0.86) and unskilled and semi-skilled workers (0.96), and inverse correlations with high income families (-0.93) and managers and administrators, and professionals (-0.97). There were also inverse correlations of meaningful significance with the variables for people aged 65 years and over (-0.63), female labour force participation (-0.53) and migrants born in predominantly non-English speaking countries and resident for less than five years (-0.52), as well as positive correlations with the variables for the Indigenous population (0.69) and low income families (0.68). These results, together with the inverse correlation of substantial significance with the IRSD (-0.90), indicate the existence of an association at the SLA level between low educational participation rates and socioeconomic disadvantage.

Map 3.14
People who left school at age 15 years or less, or did not go to school, Perth, 1996

Standardised Ratio: number of people in each Statistical Local Area compared with the number expected*



*Expected numbers were derived by indirect age-sex standardisation, based on WA totals

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

People who left school at age 15 years or less, or did not go to school, 1996

State/Territory comparison (Australia as the Standard)

A description of the process of age-sex standardisation, used in producing the standardised ratios (SRs) mapped, is provided on page 17. The overall number of early school leavers (people had left school aged 15 years or less, or did not go to school), was 13 per cent higher than expected in the non-metropolitan areas of Australia, compared with eight per cent lower in the capital cities. This relationship was evident in all of the Australian States, with the biggest difference between capital city and non-metropolitan ratios occurring in the Northern Territory. Western Australia (with an SR of 133**) and Queensland (127**) had the highest *Rest of State/Territory* ratios.

There were notably larger differentials (from the Australian rates) in the ratios recorded for the non-metropolitan areas of the Northern Territory, Tasmania and Western Australia in 1996, when compared with the ratios for 1986 (**Table 3.21**). The higher ratios suggest a decline in educational participation, relative to the Australian experience, over this ten year period.

Table 3.21: People who left school at age 15 years or less, or did not go to school, State/Territory
Age-sex standardised participation ratios

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	89**	82**	110**	98**	112**	98**	92**	68[2]**	92**
Other major urban centres	114**	95**	106**	..	..	..	..	..	109**
Rest of State/Territory	106**	97**	127**	114**	133**	120**	121**	-[4]	113**
Whole of State/Territory	96**	86**	116**	102**	118**	111**	108**	64**	100**
1986									
Rest of State/Territory	104**	98**	125**	112**	123**	111**	104**	-[4]	110**

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services
Statistical significance: * significance at 5 per cent level; ** significance at 1 per cent level

Rest of State (Western Australia as the Standard)

Overall, there were 12 per cent more early school leavers in the non-metropolitan areas of Western Australia than were expected from the State rates, a standardised ratio of 112**.

The SLA of Ngaanyatjarraku had more than twice the number of early school leavers expected from the State rates, an SR of 218**, with 776 early school leavers. In Murchison (with an SR of 134*) and Upper Gascoyne (131**), two adjoining SLAs in the State's central region, ratios were elevated by 34 per cent and 31 per cent respectively above the levels expected. South of **Perth**, Waroona (131**) also had 31 per cent more early school leavers than expected and, in nearby Collie (128**), there were 28 per cent more than expected.

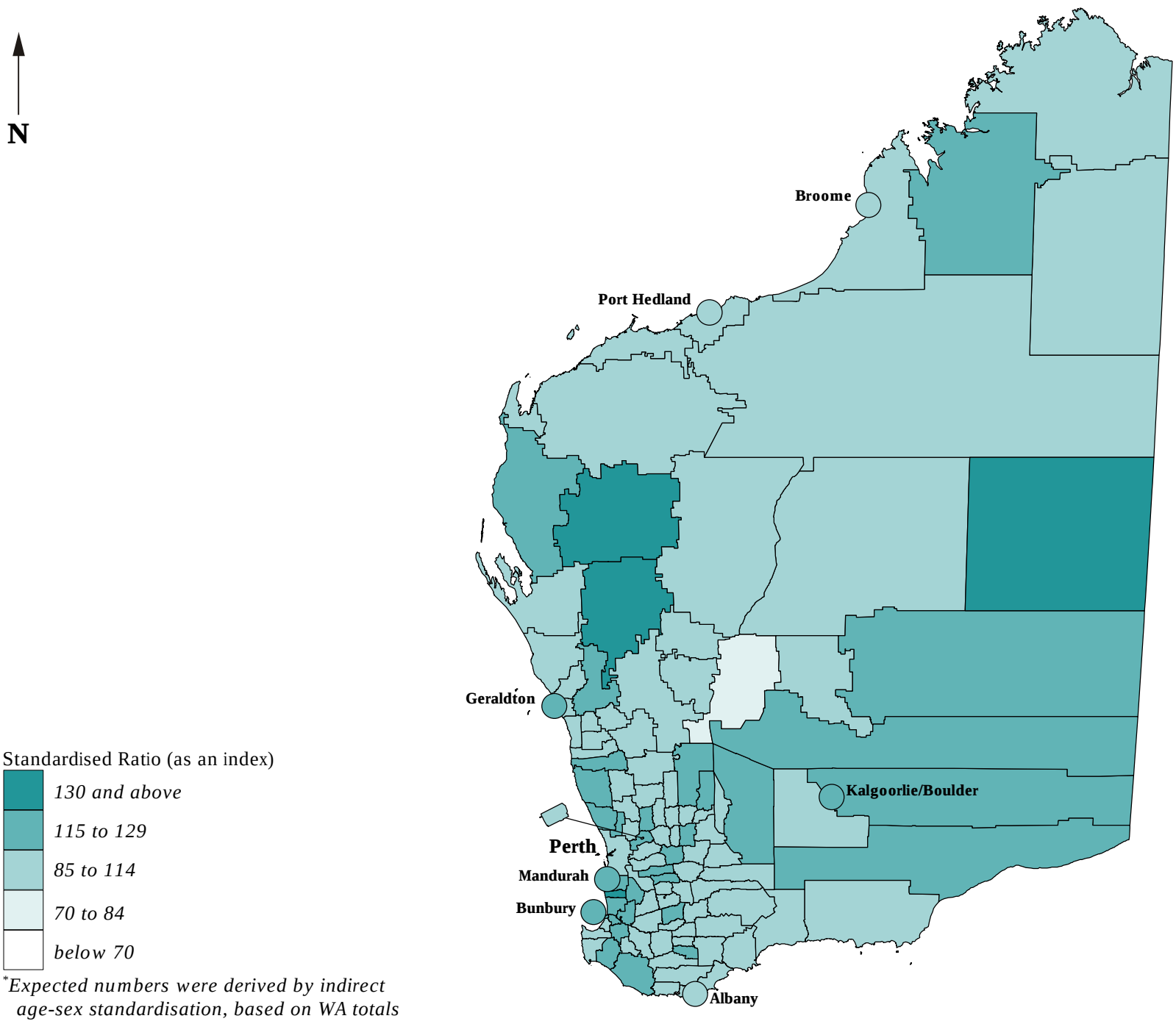
SLAs with the lowest ratios were Sandstone (with an SR of 84; and 88 early school leavers), Narrogin (85; 192), Yalgoo (88; 161), Wyndham-East Kimberley (88**; 2274) and Broomehill (89; 122).

The largest number of early school leavers was recorded in Mandurah, some sixty kilometres south of **Perth**, with 15,138 early school leavers and an SR of 123**. Other SLAs with large numbers of early school leavers were Bunbury (9,935 people), Geraldton (6,897), Busselton (5,934) and Albany (5,313).

There were weak correlations at the SLA level in the non-metropolitan areas of Western Australia with the variables for low income families (0.42) and dwellings without a motor vehicle (0.29). These results, together with the weak inverse correlation with the IRSD (-0.42), suggest the existence of an association at the SLA level between the distribution of early school leavers and socioeconomic disadvantage.

Map 3.15
People who left school at age 15 years or less, or did not go to school, Western Australia, 1996

Standardised Ratio: number of people in each Statistical Local Area compared with the number expected*



*Expected numbers were derived by indirect age-sex standardisation, based on WA totals

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

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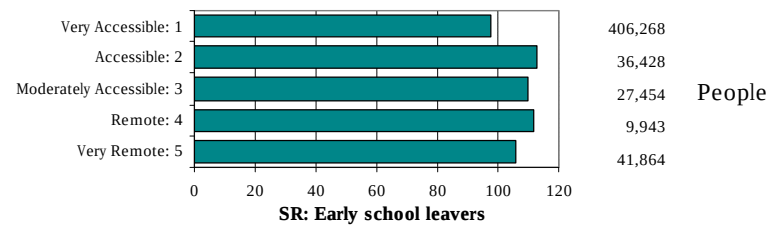


People living in the areas classified within ARIA as Very Accessible had the highest rates of educational participation (the lowest rates of people who left school at age 15 or earlier, or did not go to school, an SR of 98). The lowest rates of educational participation were in the areas in the Accessible (an SR of 113) and Remote (112) categories.

Source: Calculated on ARIA classification, DHAC

Aboriginal and Torres Strait Islander people, 1996

Capital city comparison

The percentages of people identifying as Aboriginal and Torres Strait Islanders in the 1996 Census were low, with the *All capitals* average was 1.0 per cent (**Table 3.22**). The exceptions were **Hobart** and **Darwin**, where Indigenous people comprised 2.5 per cent and 8.6 per cent of the population, respectively. The lowest percentage was recorded in **Melbourne** (0.3 per cent), with **Sydney** and **Adelaide** the next lowest, both with 0.9 per cent. However, some 36.6 per cent of Australia's Indigenous people (108,557 people) lived in the capital cities at the 1996 Census, with the largest numbers in **Sydney** (34,432 Indigenous people).

The proportion of Indigenous people living in Australia's capital cities increased in the ten years from 1986, rising from 0.6 per cent in 1986, to 0.7 per cent in 1991 and to 1.0 per cent in the 1996 Census. The number of Indigenous Australians rose by 47,945 in the same period. This substantial increase largely reflects changes over time in the preparedness of people to identify themselves as Indigenous on the Census form. The increase was greatest in New South Wales, and particularly marked in the non-metropolitan areas of the State, with a population of 56,474 in 1996 compared with 35,907 in 1986. Additional information about these increases is provided on pages 16 and 17 (see *Data quality of Indigenous population counts*).

Table 3.22: Aboriginal and Torres Strait Islander people, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**0.9**	**0.3**	**1.5**	**0.9**	**1.4**	**2.5**	**8.6**	**1.1**	**1.0**
1986	**0.6**	**0.2**	**1.0**	**0.6**	**1.0**	**1.2**	**7.6**	**0.6**	**0.6**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth

At the 1996 Census, there were 17,198 Indigenous people in **Perth**, a large increase in this population from 11,744 in 1991 and 10,087 in 1986. Although marked, this increase in the last five years is among the lowest percentage increase of all the States and Territories (see **Table 3.2**, page 16).

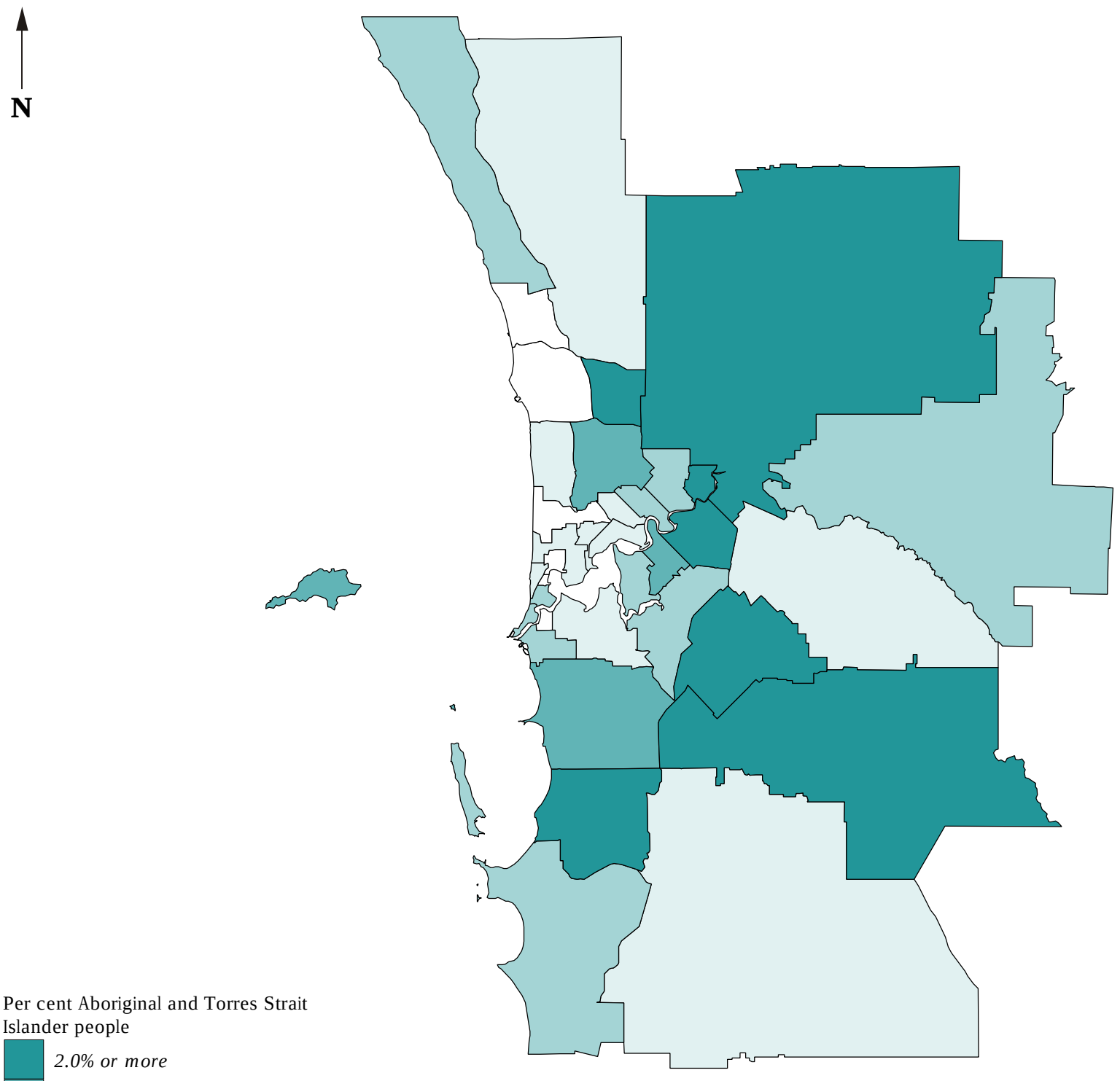
Indigenous Australians comprised more than two per cent of the population in Kwinana (4.6 per cent), Belmont (3.2 per cent), Swan (2.8 per cent), Bassendean and Wanneroo: South-East (both 2.7 per cent), Armadale (2.5 per cent) and Gosnells (2.3 per cent). These seven SLAs accounted for almost half (45.4 per cent) of the Indigenous people living in **Perth**. Indigenous people comprised one per cent or more of the total population in almost all the remaining SLAs (54.1 per cent).

From a health perspective, the numbers of people involved are also important. The largest numbers were located in the adjacent SLAs of Swan (1,952 Indigenous people) and Stirling: Central (1,687) situated to the north of the upper Swan River and in an extensive sweep to the south of the city in Gosnells (1,682), Armadale (1,237) and Cockburn 1,020). There were a further seven SLAs with between 500 and 1,000 Indigenous people, with all but two of the SLAs located to the south of the Swan River.

A number of SLAs in the higher socioeconomic areas between the lower Swan River and the coastline, north of Fremantle, had fewer than 50 Indigenous people.

There were correlations of substantial significance at the SLA level with the variable for unskilled and semi-skilled workers (0.81) and dwellings rented from the State housing authority (0.73), and inverse correlations with high income families (-0.74) and managers and administrators, and professionals (-0.71). There were also correlations of meaningful significance with early school leavers (0.69), low income families (0.67), unemployed people (0.63) and single parent families (0.61). These results, together with the inverse correlation of substantial significance with the IRSD (-0.80), indicate the existence of an association at the SLA level between high proportions of Indigenous population and socioeconomic disadvantage.

Map 3.16
Aboriginal and Torres Strait Islander people, Perth, 1996
as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Aboriginal and Torres Strait Islander people, 1996

State/Territory comparison

At the 1996 Census, some two thirds of those who identified themselves at the Census as being Aboriginal and/or Torres Strait (Indigenous) Islander people lived in inland and remote areas of Australia, away from major urban centres and other highly populated areas. There were wide variations between States and Territories, from a high of 23.7 per cent in the Northern Territory to a low of 0.5 per cent in Victoria; similar variations occurred in the non-metropolitan areas (**Table 3.23**). While Indigenous people accounted for just 3.5 per cent of the population in the non-metropolitan areas of New South Wales, compared with 35.6 per cent in the non-metropolitan areas of Northern Territory, the population was much larger (56,648 Indigenous people, compared to 38,893 people, respectively).

The number of Indigenous people recorded in New South Wales as a whole increased from 59,011 in 1986 to 101,652 in 1996. These changes represent an increase of 72.0 per cent, presumably because of changes over time in the preparedness of people to identify themselves on the Census form. Additional information about these increases is on pages 16 and 17.

Table 3.23: Aboriginal and Torres Strait Islander people, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	0.9	0.3	1.5	0.9	1.4	2.5	8.6	1.1[2]	1.0
Other major urban centres[3]	1.5	0.5	1.9	..	..	..	..	..	1.5
Rest of State/Territory	3.5	0.9	4.6	2.9	7.0	3.4	35.6	–[4]	4.2
Whole of State/Territory	1.7	0.5	2.8	1.4	2.9	3.0	23.7	1.0	2.0
1986									
Rest of State/Territory	2.6	0.6	3.7	2.3	6.7	1.8	35.7	–[4]	3.3

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

Indigenous people are widely distributed throughout the non-metropolitan areas of Western Australia, in particular in the far north of the State, and in the State's remote pastoral and desert areas (**Map 3.17**).

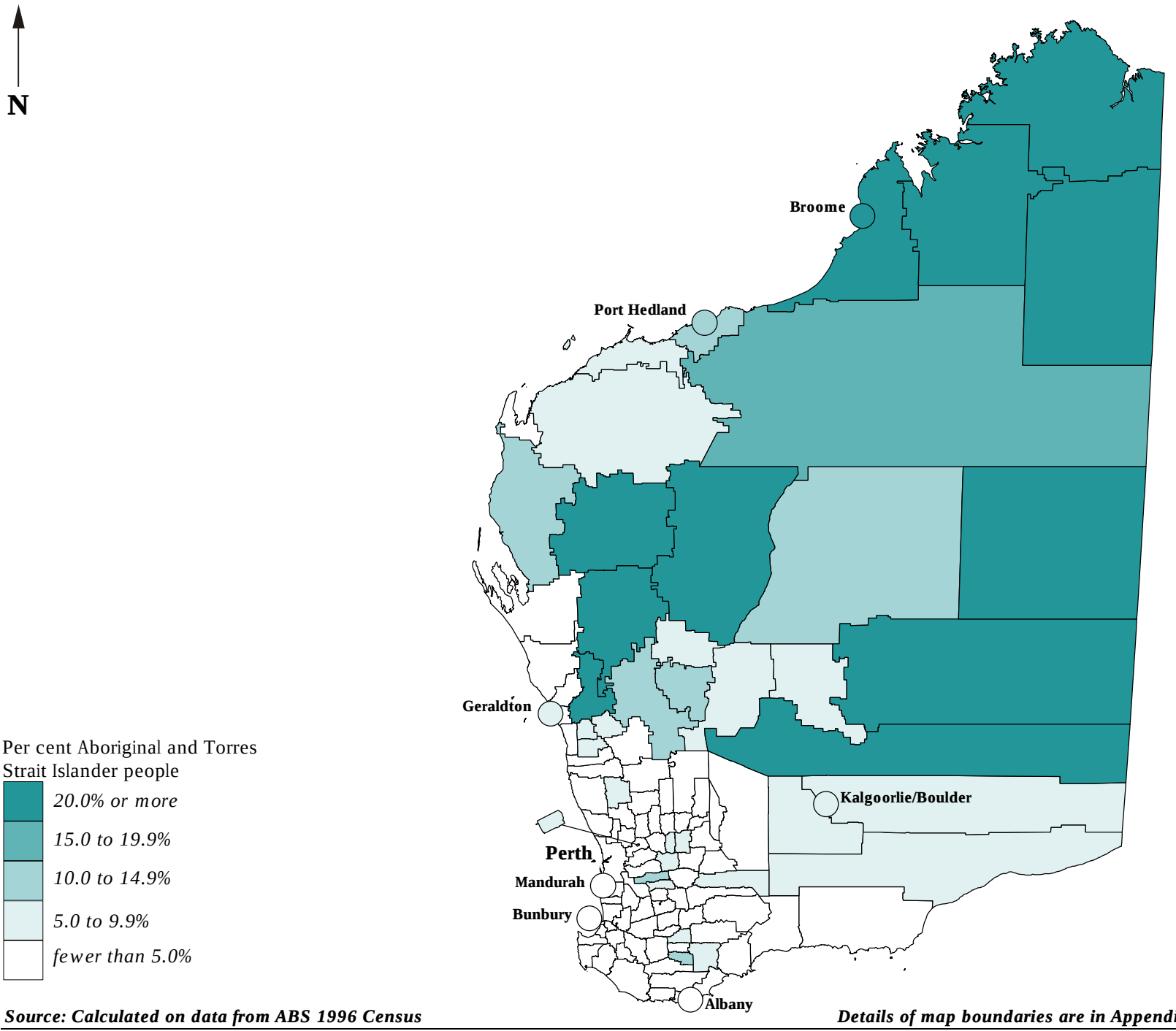
The highest proportion (85.6 per cent) of Indigenous people was located in Ngaanyatjarraku, situated adjacent to the Western Australian/South Australian border. In addition, both Halls Creek (59.1 per cent) and Derby-West Kimberley (54.6 per cent) had more than 50 per cent of their total populations comprised of Indigenous people. A further eight SLAs had proportions of more than 20 per cent; they were Murchison (45.1 per cent), Upper Gascoyne (33.7 per cent), Menzies (32.6 per cent), Mullewa (29.8 per cent), Laverton (27.0 per cent), Broome (25.0 per cent), Wyndham-East Kimberley (24.4 per cent) and Meekatharra (20.4 per cent). There were 14,391 Indigenous people, or 28.3 per cent of the State's Indigenous population, in these SLAs.

Seven SLAs had more than 1,500 Indigenous people. These were Derby-West Kimberley (3,958 people), Broome (3,423), Wyndham-East Kimberley (2,138), Halls Creek (1,951), Port Hedland (1,795), Kalgoorlie/Boulder (1,686) and Geraldton (1,542). The Indigenous people in these seven SLAs represented almost half (49.1 per cent) of the State's Indigenous population.

In the area of the State extending from Shark Bay through the wheat belt and across to Esperance, the proportions of Indigenous people were relatively low. Of the 72 SLAs in which Indigenous people comprised five per cent or less of the total population, two thirds had proportions of two per cent or less, a total of just 2,307 Indigenous people.

There was a correlation of substantial significance at the SLA level with the variable for dwellings without a motor vehicle (0.86), of meaningful significance with the variable for single parent families (0.66) and, more weakly, with the variables for housing authority rental dwellings (0.48) and low income families (0.38). These results, together with the inverse correlation of substantial significance with the IRSD (-0.71), indicate the existence of an association at the SLA level between high proportions of Indigenous people and socioeconomic disadvantage.

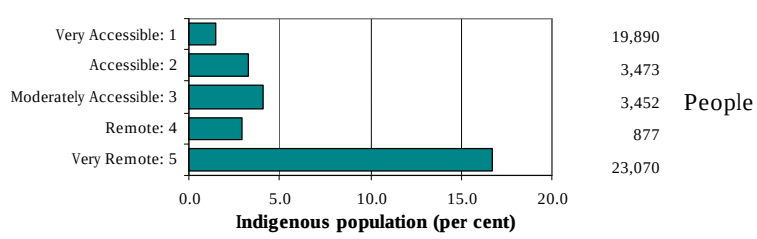
Map 3.17
Aboriginal and Torres Strait Islander people, Western Australia, 1996
as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The distribution of the Indigenous population under ARIA is quite striking. The graph shows the relatively low proportions of Indigenous people in the first four ARIA categories, from 1.5 per cent in the Very Accessible category, to 4.1 per cent in the Moderately Accessible category, as well as the high 16.7 per cent in the Very Remote category. The numbers associated with the graph highlight the distribution of Indigenous people throughout Western Australia, particularly in the most remote areas which comprise the largest group of Indigenous people.

Source: Calculated on ARIA classification, DHAC

People born in predominantly non-English speaking countries and resident in Australia for five years or more, 1996

Capital city comparison

Migrants in this category arrived in Australia from predominantly non-English speaking countries in or before 1991. As a substantial proportion will have been resident in Australia for many years, their distribution is often widespread within urban areas, especially the capital cities. Of the Australian capital cities, **Sydney** has the second highest proportion of its population in this category (**Table 3.24**), while **Hobart** has the lowest (4.3 per cent). This characteristic, of a strong over representation of non-English speaking migrants, has been a feature of New South Wales 'demography during the post-war period. There were 666,190 people in this category in **Sydney** in 1996 (17.8 per cent of the population), well above **Melbourne**'s population of 568,565 people. This represents a major change from the situation in 1986, when **Melbourne** had 456,686, just 15,177 less than in **Sydney**.

Table 3.24: People born in predominantly non-English speaking countries and resident in Australia for five years or more, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**17.8**	**18.1**	**7.5**	**11.1**	**11.7**	**4.3**	**10.7**	**11.4**	**14.8**
1986	**14.0**	**16.1**	**6.0**	**10.5**	**10.5**	**4.2**	**10.2**	**10.8**	**12.7**

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

In 1996, in **Perth**, there were 145,341 migrants born in predominantly non-English speaking countries who arrived in Australia in or before 1991. This was a large increase from the 104,147 people in this category in 1986 (10.5 per cent of the population). At the SLA level, the largest number was in Stirling: Central (18,130 people), with a further 11,565 in Melville. Each of Canning, Wanneroo: South-West, Bayswater and Swan had more than 8,000 of these people. People in this population group are therefore an important component of the demographic make-up of **Perth**, and their presence has implications for health service provision.

Just over one third of SLAs in **Perth** had proportions of long term resident migrants born in predominantly non-English speaking countries above the city's average. The highest proportions of this group were in the older and middle suburbs, with the lowest in the more peripheral, newer suburbs (**Map 3.18**). The location of these migrant populations is generally influenced by the distribution of employment opportunities requiring labouring, semi-skilled and skilled occupations, and agricultural opportunities such as offered in the Swan Valley.

The highest proportions of long term resident migrants born in predominantly non-English speaking countries were in Vincent (20.1 per cent), and adjacent Stirling: Central (19.6 per cent) and Bayswater (19.0 per cent). Wanneroo: South-East, to the north of Vincent, had a proportion of 18.6 per cent and Fremantle, at the mouth of the Swan River, had 15.4 per cent of its population comprised of people with these characteristics.

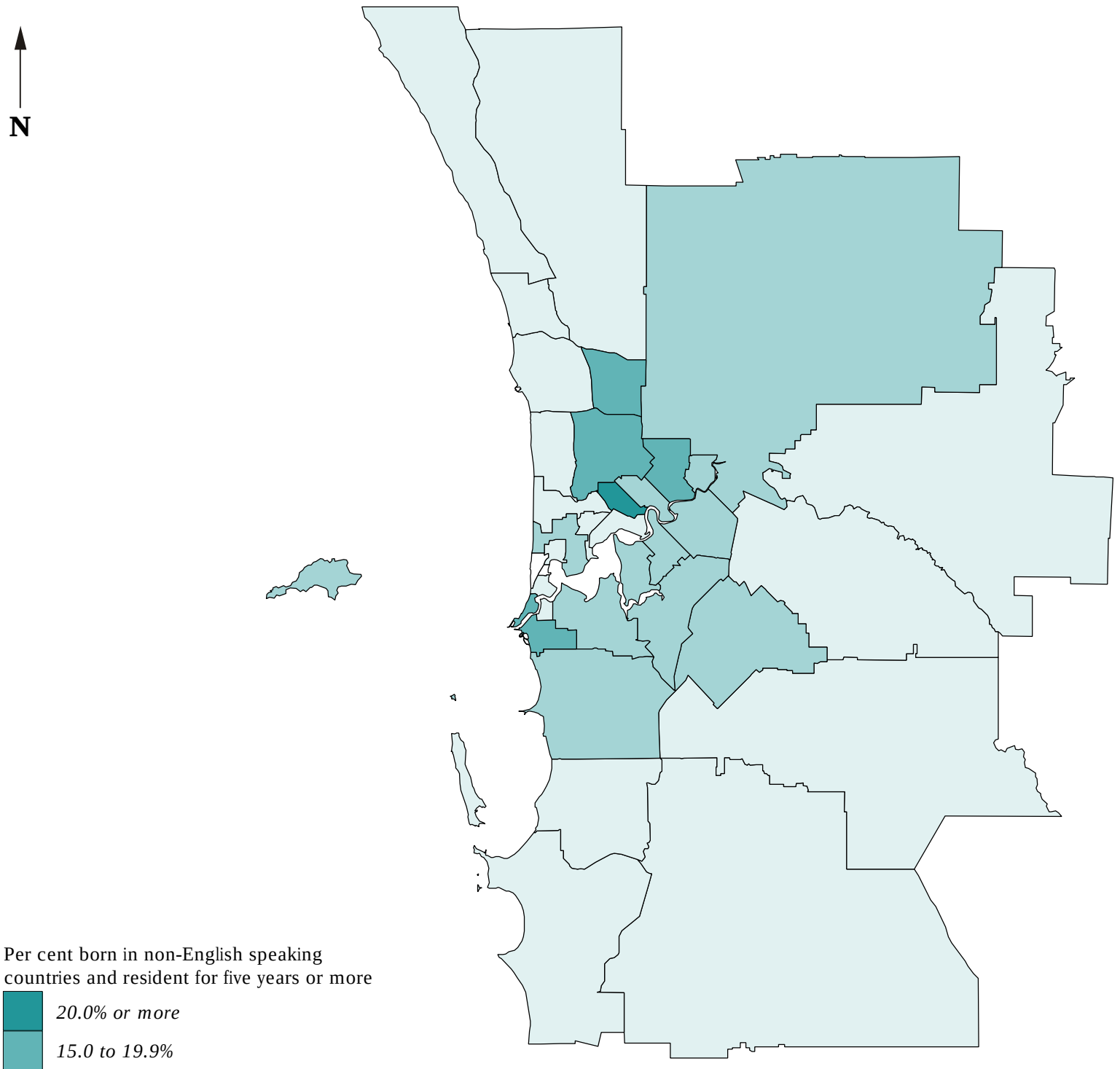
The lowest proportions were in the SLAs of Peppermint Grove (3.6 per cent), Cottesloe (4.9 per cent), Serpentine-Jarrahdale (5.1 per cent), Rockingham (5.3 per cent) and Claremont (6.0 per cent).

Not surprisingly, there was a correlation of substantial significance at the SLA level with the variable for poor proficiency in English (0.88). There was also a weak correlation with the variable for housing authority rental dwellings (0.47), and a weak inverse correlation with the IRSD (-0.41). These results suggest the existence of an association at the SLA level between high proportions of people in this migrant group and socioeconomic disadvantage.

Map 3.18

People born in predominantly non-English speaking countries and resident in Australia for five years or more, Perth, 1996

as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

People born in predominantly non-English speaking countries and resident in Australia for five years or more, 1996

State/Territory comparisons

The proportion of migrants born in predominantly non-English speaking countries, who arrived in Australia in or before 1991 and resided in the non-metropolitan areas at the 1996 Census, was highest in Victoria and Western Australia. However, as is shown in **Table 3.25**, the proportion of migrants in this category located in the non-metropolitan areas of the States is low relative to capital city rates. An important social process is suggested when **Tables 3.25** and **3.27** (of more recently arrived migrants) are compared. As migrants born in predominantly non-English speaking countries become more proficient in English, and adapted to the host country's economic and social systems, they are more prepared to leave the capital cities to access opportunities available in the more rural areas.

Between 1986 and 1996, there was an increase in the proportions of people born in non-English speaking countries and resident for five years or more in all States and Territories except the Northern Territory, where there was a small decline. The Australian average increased from 9.5 per cent in 1986 to 10.9 per cent in 1996. The proportion across the *Rest of State/Territory* areas was 3.5 per cent at both Censuses.

Table 3.25: People born in predominantly non-English speaking countries and resident in Australia for five years or more, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	17.8	18.1	7.5	11.1	11.7	4.3	10.7	11.4[2]	14.8
Other major urban centres[2]	7.0	10.0	6.1	..	..	..	..	..	7.0
Rest of State/Territory	3.1	3.9	3.7	3.8	3.9	2.6	3.2	–[4]	3.5
Whole of State/Territory	12.7	14.3	5.7	9.2	9.5	3.3	6.5	11.3	10.9
1986									
Rest of State/Territory	2.8	4.1	3.6	4.1	4.6	2.4	3.8	–[4]	3.5

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

The number of people born in predominantly non-English speaking countries who arrived in Australia in or before 1991 and resident in the non-metropolitan areas of Western Australia declined from 19,089 (4.6 per cent of the population) in 1986 to 18,956 (3.9 per cent) in 1996.

The spatial distribution of this population group suggests that their mobility has been influenced by the availability of employment in particular types of occupations. Examples are the availability of labouring and semi-skilled employment in the Pilbara and South Eastern regions, and intensive agriculture, horticulture and viticulture opportunities in the south-west of the State (**Map 3.19**).

The highest proportion of long term migrants was in Waroona (7.0 per cent), just south of Mandurah, where the ALCOA bauxite mine and alumina plant was located. Similarly, Port Hedland (6.9 per cent), East Pilbara (5.2 per cent) and Roebourne (5.1 per cent) provided employment opportunities associated with the iron ore mining industry; and the proportions of longer term migrants in Carnarvon (6.1 per cent), Denmark (5.5 per cent) and Bunbury (5.2 per cent) were most likely associated with agricultural opportunities in those areas.

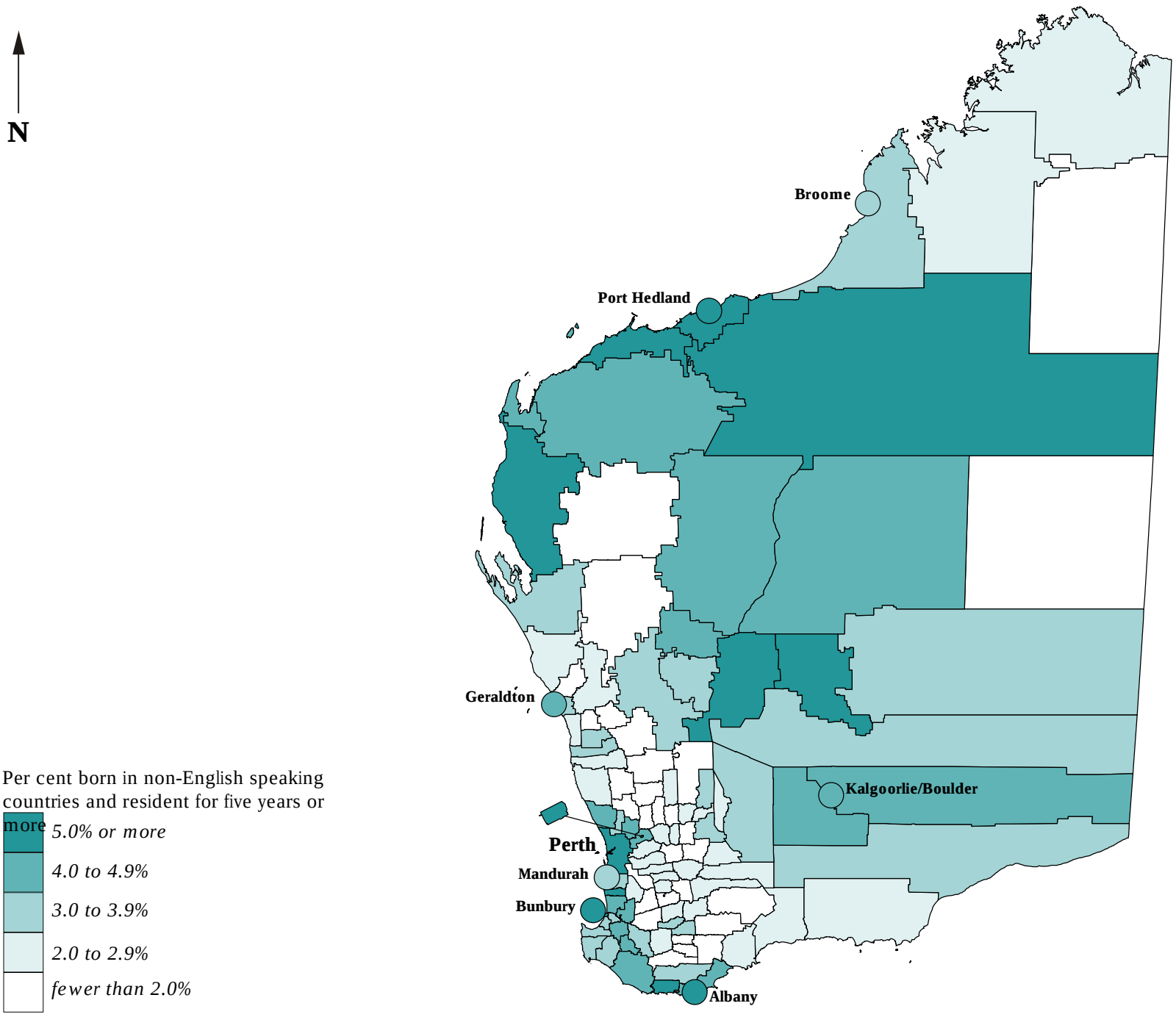
Low proportions were recorded in the SLAs of Wandering, Quairading and Kent (all 0.8 per cent), Perenjori (0.9 per cent), Upper Gascoyne (1.0 per cent), Wickepin (1.1 per cent), Victoria Plains, Ngaanyatjarraku, Mount Marshall and Dalwallinu (all 1.2 per cent), Broomehill (1.3 per cent) and Williams, Morawa, Gnowangerup and Cranbrook (all 1.4 per cent).

There were 18,956 people in this category outside **Perth**, the largest numbers of whom were located in the towns of Bunbury with 1,392, Mandurah with 1,325, Kalgoorlie/Boulder with 1,183, Port Hedland with 900 and Geraldton with 824. Eleven SLAs had proportions of more than 500 of these migrants, accounting for half (49.9 per cent) of all longer term migrants (from predominantly non-English speaking countries) living outside **Perth**.

As would be expected, there was a correlation of meaningful significance at the SLA level with the variable for poor proficiency in English (0.59). There was also an inverse correlation of meaningful significance with the variable for managers and administrators, and professionals (-0.60). These results, together with the weak correlation with the IRSD (0.24), suggest the existence of an association at the SLA level between high proportions of people born in predominantly non-English speaking countries and resident for five years or more, and high socioeconomic status.

Map 3.19
People born in predominantly non-English speaking countries and resident in Australia for five years or more, Western Australia, 1996

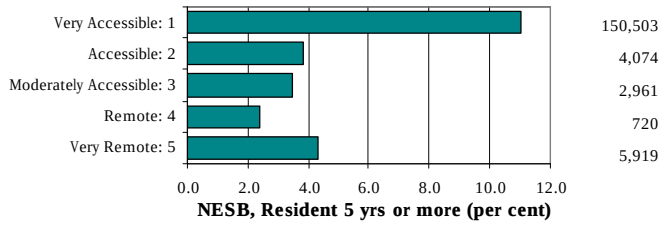
s a percentage of the total population in each Statistical local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The highest proportion of the population born in predominantly non-English speaking countries and resident in Australia for five years or more lives in areas in the Very Accessible category (11.0 per cent of the population) and the lowest in the Remote category (2.4 per cent). The Very Remote areas had the second highest proportion, of 4.3 per cent, a characteristic shared only by South Australia and Tasmania.

Source: Calculated on ARIA classification, DHAC

People born in predominantly non-English speaking countries and resident in Australia for less than five years, 1996

Capital city comparison

For migrants arriving from non-English speaking countries, the initial years of settlement are the most difficult. The settlement process is often further exacerbated by limited English proficiency. For these migrants, obtaining employment may be difficult, type of employment may be restricted, and income levels may be low. In this context, the largest capital cities hold wider prospects for employment and they also have the most culturally diverse populations. **Sydney** is the major initial destination for migrants from predominantly non-English speaking countries, with 138,009 people (3.7 per cent of its population) having arrived in Australia in the previous five years (**Table 3.26**). **Melbourne** was the second largest destination, attracting 88,673 people in this population group, 2.8 per cent of its population at the 1996 Census.

The proportion of recent immigrants in Australia's capital cities increased slightly from 2.5 per cent in 1986 to 2.7 per cent in 1996. This was largely due to the growth in numbers in **Brisbane, Sydney** and **Melbourne**. Although the proportion remained the same, there was an increase in absolute terms in **Perth** over the same period of time. **Darwin**, **Canberra** and **Adelaide** experienced a decline in both proportions and numbers in this population group.

Table 3.26: People born in predominantly non-English speaking countries and resident in Australia for less than 5 years, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**3.7**	**2.8**	**1.7**	**1.4**	**2.3**	**0.7**	**1.7**	**1.9**	**2.7**
1986	**3.1**	**2.6**	**1.4**	**1.6**	**2.3**	**0.7**	**3.1**	**2.2**	**2.5**

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

Although the number of recently arrived migrants born in predominantly non-English speaking countries increased from 23,027 to 28,756 over the ten years to 1996, the proportion remained stable at 2.3 per cent of the population.

As **Map 3.20** shows, the highest proportions of people in this population group were living in the inner SLAs, as in most large cities. These areas offer the opportunity of relatively low housing costs in older housing, or in State owned accommodation.

At the 1996 Census, recently arrived migrants were most heavily concentrated in the City of Perth, where they comprised 7.5 per cent of the population. In Subiaco and Victoria Park, both adjacent to the city centre, they comprised 7.0 and 6.9 per cent respectively. Other SLAs with proportions of 3.0 per cent or more were South Perth (5.1 per cent), Vincent (4.4 per cent), Stirling: Central (3.9 per cent), Claremont (3.8 per cent), Peppermint Grove (3.6 per cent), Melville and Stirling: South-Eastern (both 3.5 per cent), Canning (3.2 per cent) and Mosman Park (3.0 per cent).

However, in the outlying SLAs of **Perth,** proportions were much lower and typically less than one per cent of the population. The lowest proportions were in Mundaring (0.3 per cent; and 105 people), Serpentine-Jarrahdale (0.3 per cent; and 27 people), Rockingham (0.4 per cent; and 252 people), Kalamunda (0.5 per cent; and 245 people), Armadale (0.5 per cent; and 235 people) and Kwinana (0.5 per cent; and 91 people).

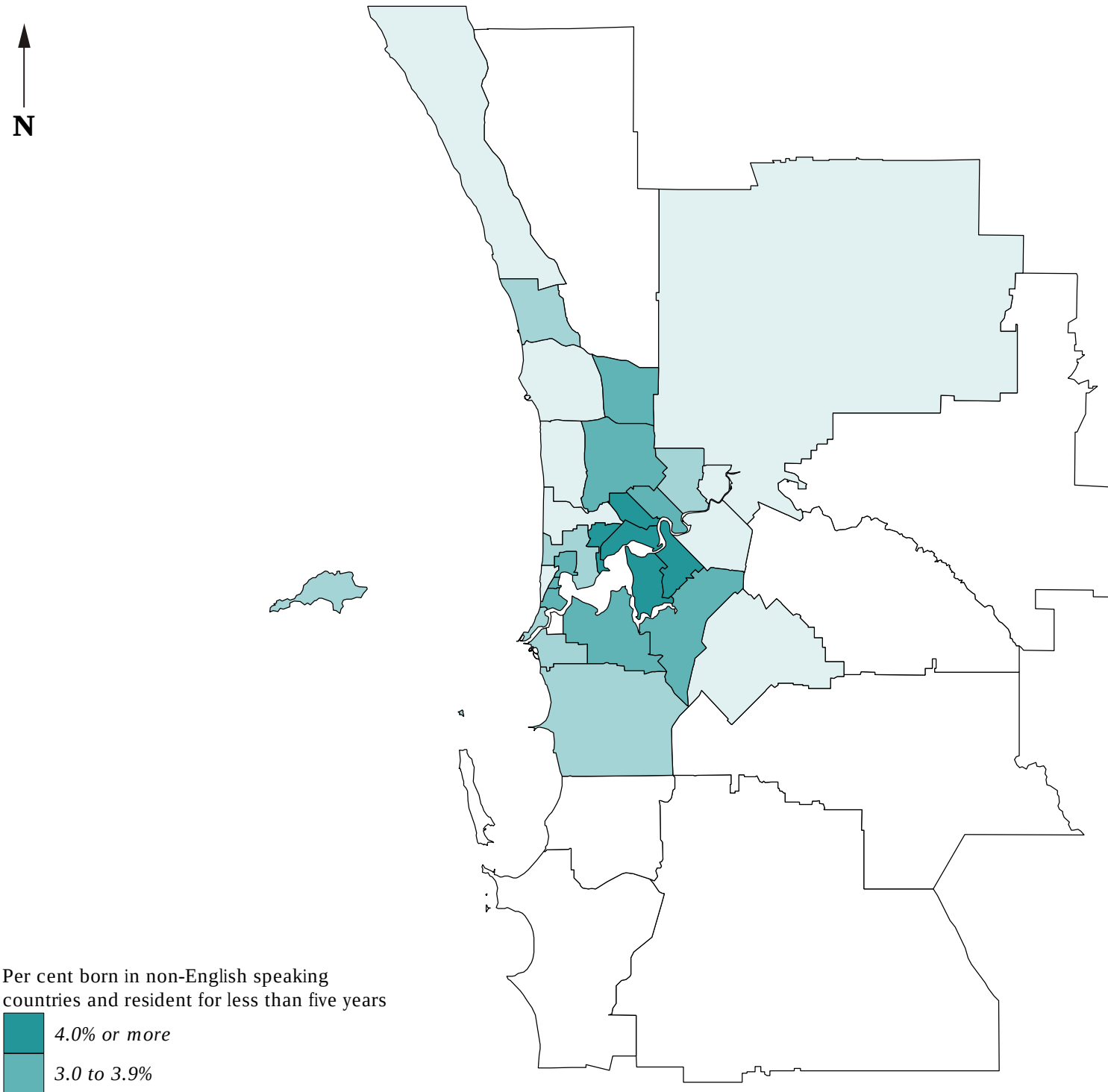
The largest numbers of recently arrived migrants born in predominantly non-English speaking countries were in Stirling: Central (3,625 people), Melville (3,152) Canning (2,160), South Perth (1,820), and Victoria Park (1,815).

There was a correlation of meaningful significance with the variable for dwellings without a motor vehicle (0.66), and an inverse correlation of meaningful significance with early school leavers (-0.52). These results, together with the weak correlation with the IRSD (0.28), suggest the existence of an association at the SLA level between people in this population group and socioeconomic disadvantage.

Map 3.20

People born in predominantly non-English speaking countries and resident in Australia for less than five years, Perth, 1996

as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

People born in predominantly non-English speaking countries and resident in Australia for less than 5 years, 1996

State/Territory comparisons

Recently arrived migrants from predominantly non-English speaking countries have a strong preference for capital city residence, as is clear from **Table 3.27** (see comments on previous text page). The proportion of the population in the non-metropolitan areas of all of the States and the Northern Territory has declined between the periods shown.

The slight increase in the proportion of people born in predominantly non-English speaking countries, from 1.7 to 1.9 per cent of the population of Australia between 1986 and 1996, was due mainly to increases in New South Wales, Victoria and Queensland. South Australia and the Northern Territory experienced a decline in both numbers and proportions over this ten year period.

Table 3.27: People born in predominantly non-English speaking countries and resident in Australia for less than five years, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	3.7	2.8	1.7	1.4	2.3	0.7	1.7	1.9[2]	2.7
Other major urban centres[3]	0.9	1.0	1.2	..	..	..	..	..	1.0
Rest of State/Territory	0.3	0.3	0.5	0.2	0.4	0.4	0.5	–[4]	0.4
Whole of State/Territory	2.5	2.1	1.2	1.0	1.8	0.5	1.0	2.0	1.9
1986									
Rest of State/Territory	0.4	0.4	0.6	0.4	0.8	0.4	1.0	–[4]	0.5

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

Both the number and proportion of recently arrived migrants born in predominantly non-English speaking countries who were living in the non-metropolitan areas of Western Australia declined substantially between the 1986 and 1996 Censuses, from 0.8 per cent (3,366 people) in 1986 to 0.4 per cent (1,874 people) in 1996.

Seven SLAs had one per cent or more of their population in this demographic group, although generally with very small populations. They were Cue (1.3 per cent; and 9 people); Westonia (1.3 per cent; and 4 people); Carnamah (1.2 per cent; and 12 people); Leonora and Merredin (both with 1.0 per cent; and 36 people); Port Hedland (1.0 per cent; and 135 people); and Sandstone (1.0 per cent; and 3 people). Therefore, the patterns presented in **Map 3.21** should be interpreted in conjunction with the numbers located in any SLA (these are provided in Volume 6.1).

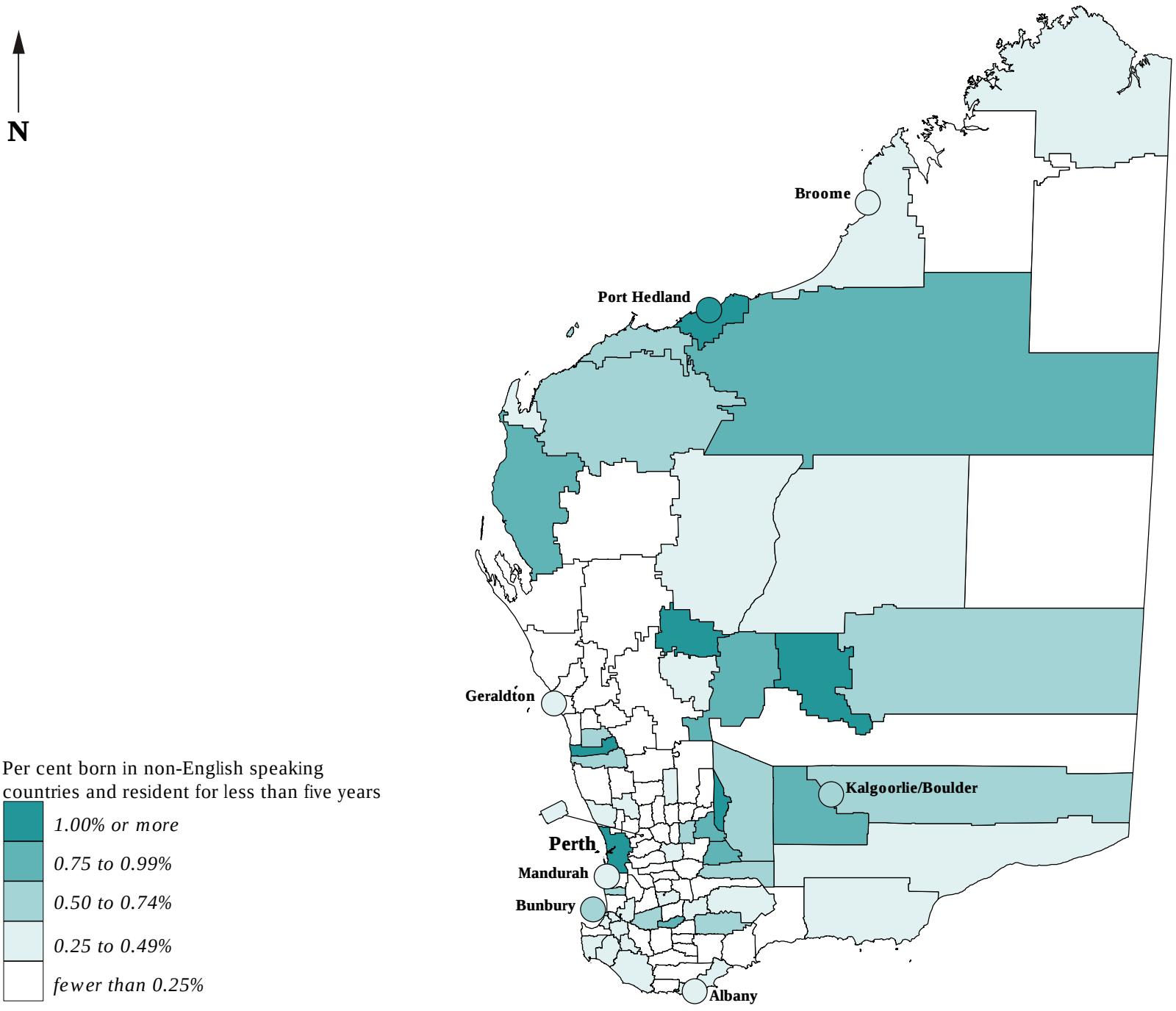
Around one quarter (24.5 per cent) of non-metropolitan SLAs had no people recorded in this population group at the Census.

The largest populations of recently arrived migrants born in predominantly non-English speaking countries were located in Kalgoorlie/Boulder (192 people), Port Hedland and Bunbury (both with 135), Mandurah (109) and Roebourne (108). Other centres with more than 50 of these migrants were Ashburton, Broome, Albany, East Pilbara, Carnarvon and Geraldton. The attraction of these locations to recently arrived, non-English speaking migrants is likely to be the employment opportunities, particularly in the mining, agriculture and fishing industries.

There was a correlation of meaningful significance at the SLA level with the variable for poor proficiency in English (0.52). There were also weak associations with the variables for high income earners (0.48) and migrants born in predominantly non-English speaking countries resident for five years or longer (0.40), and a weak inverse correlation (-0.36) with low income families. These results suggest that these migrant groups in the non-metropolitan areas of Western Australia are more likely to be living in higher socioeconomic areas.

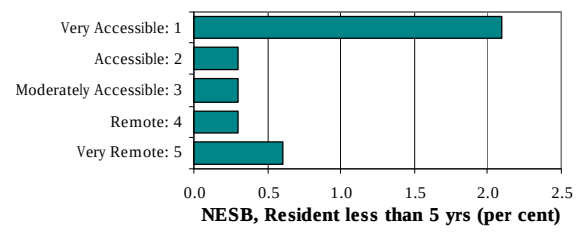
Map 3.21
People born in predominantly non-English speaking countries and resident in Australia for less than five years, Western Australia, 1996

as a percentage of the total population in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census ***Details of map boundaries are in Appendix 1.2***

Accessibility/Remoteness Index of Australia



29,147	
329	
232	People
92	
821	

The proportion of the population born in predominantly non-English speaking countries and resident in Australia for fewer than five years is highest in the Very Accessible areas (2.1 per cent) and drops away rapidly to just 0.3 per cent in each of the next three ARIA categories. There is a higher proportion, of 0.6 per cent (and the second largest number of people), in the Very Remote areas. Both percentages and numbers are very small.

Source: Calculated on ARIA classification, DHAC

Proficiency in English, 1996

Capital city comparison

For migrants from non-English speaking countries, the rate at which they adapt to live in the host country is directly related to the rate at which they achieve proficiency in English. Their level of proficiency in English has profound implications for the ease with which they are able to access labour markets, develop social networks, become aware of and utilise services, and participate in many aspects of Australian society. From a health service provision viewpoint, the location of migrants with limited English proficiency may indicate areas within the city where different approaches might be taken to ensure that these residents are aware of the health services available. In the provision of health services for women and older people, these distributions are perhaps even more relevant, as many migrants from European countries who arrived in Australia in the 1950s and 1960s have not developed English language skills (especially females), or have returned to using the language of their birthplace as they have aged (both females and males).

Poor proficiency in English of people aged five years and over and born overseas in predominantly non-English speaking countries was determined when people within this category reported speaking English 'not well' or 'not at all' (**Table 3.28**). The percentages shown are calculated on the total population aged five years and over, not just those born overseas. **Melbourne** and **Sydney** have the highest proportions of migrants with poor proficiency in English at 5.0 and 4.9 per cent respectively. These high levels are due largely to the fact that **Melbourne** and **Sydney** have been the principal destinations for migrants from South-East Asia during the last two decades, following the major influx of people from European countries in the 1950s and 1960s. However, since the 1986 Census, there has been a trend across most Australian cities towards increasing numbers of people who are not fluent in English. While proportions may have fluctuated, numbers increased in most cities. **Darwin** was the only capital city to record a fall in both proportions and numbers.

Table 3.28: Poor proficiency in English of people aged five years and over and born in predominantly non-English speaking countries, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	4.9	5.0	1.4	2.5	2.1	0.6	2.0	1.7	3.7
1986	4.0	4.8	1.2	2.7	2.1	0.6	2.6	1.9	3.4

[1]Includes Queanbeyan (C)
Source: ABS special data services

Perth

The number of **Perth** residents reporting poor proficiency in English increased from 19,610 in 1986 to 24,396 in 1991, with a similar number recorded in 1996 (24,298 people). As might be expected, the distribution of this population group (**Map 3.22**) closely mirrors the distribution of recently arrived people born in predominantly non-English speaking countries (**Map 3.20**).

The highest proportion of people in this population group was in Vincent, where 7.8 per cent of the population reported having poor proficiency in English. Wanneroo: South-East (5.9 per cent), Stirling: Central (5.3 per cent) and Fremantle (4.5 per cent) had more than four per cent of their population reporting poor proficiency in English.

Smaller proportions were recorded in SLAs located to the south-east of the city, south of Fremantle and in the Swan Valley region. The lowest were recorded in the SLAs of Cottesloe and Serpentine-Jarrahdale (both 0.3 per cent), Mundaring and Peppermint Grove (both 0.4 per cent), Rockingham and Armadale (both 0.5 per cent) and Kalamunda and Wanneroo: North-West (both 0.6 per cent).

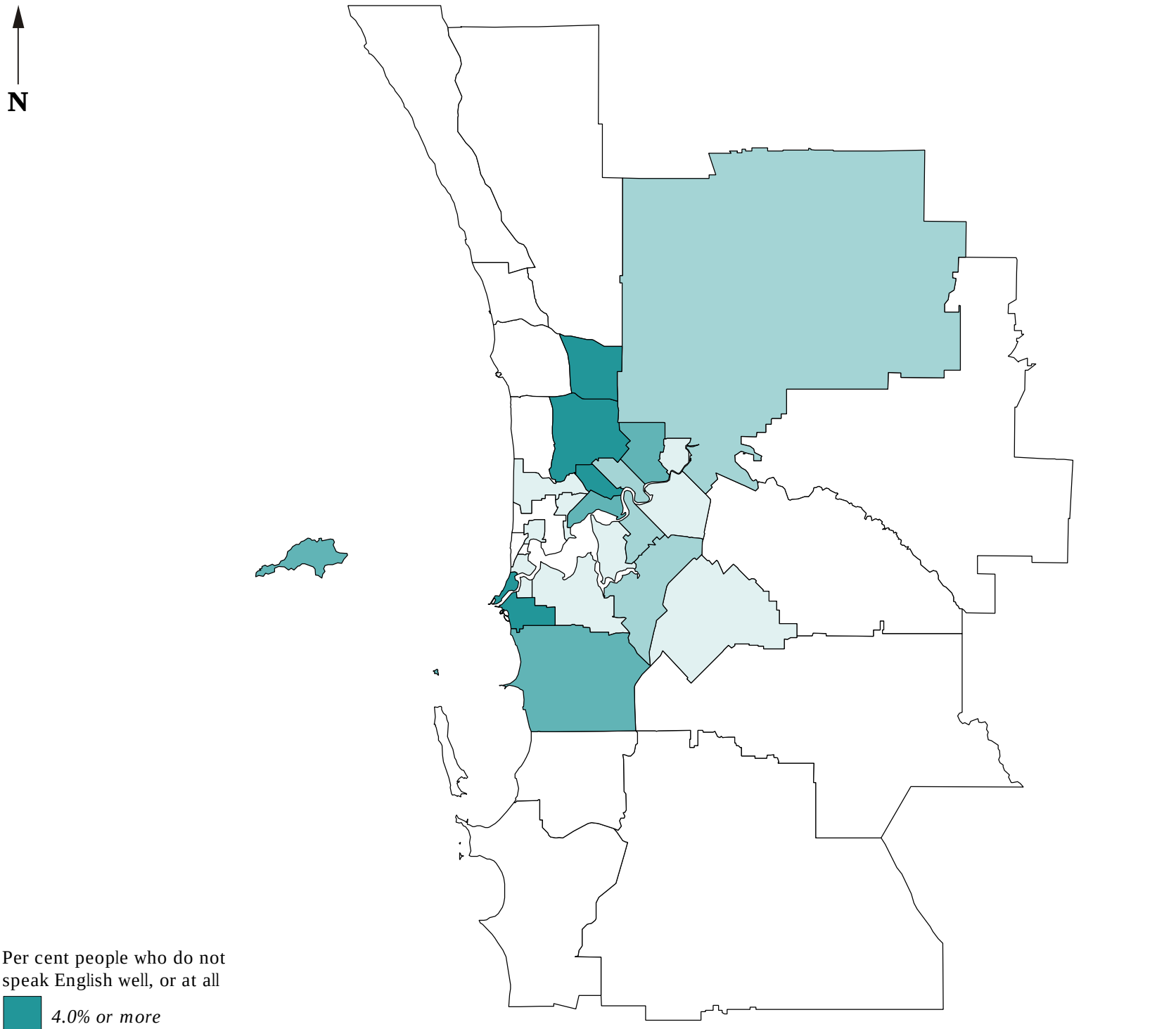
The largest numbers of migrants reporting poor proficiency in English were in Stirling: Central (4,583 people), Vincent (1,815), Wanneroo: South-East (1,659) and Cockburn (1,614). Bayswater, Canning, Swan, Melville, Gosnells and Fremantle each had more than 1,000 residents reporting poor proficiency in English. These nine SLAs represent 72.7 per cent of all migrants in this group living in **Perth**.

There was a correlation of substantial significance at the SLA level with the variable for migrants born in predominantly non-English speaking countries and resident for five years or more (0.88). There were also weak correlations with the variables for low income families (0.47), unemployed people (0.46) and recently arrived migrants (0.37). These results, together with the weak inverse correlation with the IRSD (-0.37), suggest the existence of an association at the SLA level between high proportions of people reporting poor proficiency in English and socioeconomic disadvantage.

Map 3.22

Proficiency in English of people aged five years and over and born in a non-English speaking country, Perth, 1996

as a percentage of the total population aged five years and over in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Proficiency in English, 1996

State/Territory comparison

Poor proficiency in English of people aged 5 years and over and born overseas in predominantly non-English speaking countries was determined when people within this category reported speaking English 'not well' or 'not at all'. Migration research has consistently demonstrated a propensity for migrants to locate in the major cities of the States and Territories, especially the capital cities. **Table 3.29** shows that this tendency is evident, possibly more so, for migrants reporting a poor proficiency in English. Outside of **Adelaide,** the incidence of migrants with poor English speaking skills is very low, a characteristic shared by each of the States. For these migrants to move away from the capital city and seek employment and residence elsewhere requires an ability to interact with the wider community. Poor proficiency in English restricts this capacity. Consequently, until English proficiency improves, they generally remain restricted to areas where they have the security of their language community, including longer term resident migrants with better English skills who can represent them in their interactions with the labour market, schools and the bureaucracy.

There has been an increase (at the whole of Australia level) in both the proportions and numbers of people reporting poor proficiency in English in the ten years from 1986 (when 2.4 per cent of Australia's population aged over five years did not speak English fluently) to 1996 (2.6 per cent). This increase took place in the capital cities as there was a slight decline in the *Rest of State/Territory* areas.

Table 3.29: Poor proficiency in English of people aged 5 years and over and born in predominantly non-English speaking countries, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	4.9	5.0	1.4	2.5	2.1	0.6	2.0	1.7[2]	3.7
Other major urban centres[3]	1.4	2.1	0.8	..	..	..	..	..	1.2
Rest of State/Territory	0.3	0.4	0.4	0.4	0.3	0.2	0.2	–[4]	0.4
Whole of State/Territory	3.3	3.7	0.9	2.0	1.6	0.3	1.0	1.7	2.6
1986									
Rest of State/Territory	0.4	0.6	0.5	0.6	0.7	0.2	0.4	–[4]	0.5

[1]Total for *Whole of State/Territory* includes 'Other Territories' (Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

The number and proportion of people reporting poor proficiency in English declined from 2,532 people in 1986 (0.7 per cent of the population aged five years and over), to 2,242 (0.6 per cent) in 1991, and to 1,460 people (0.3 per cent) in 1996.

There were few SLAs in the non-metropolitan areas of Western Australia with high proportions of migrants reporting poor proficiency in English (**Map 3.23**). Only Waroona (1.6 per cent), Carnarvon (1.4 per cent), Westonia (1.1 per cent) and Sandstone (1.0 per cent) had proportions of one per cent or higher. However, the high proportions of migrants with poor English proficiency in Westonia and Sandstone were based on just three migrants in each SLA.

Three quarters of the SLAs (75.2 per cent) had no people reporting poor proficiency in English.

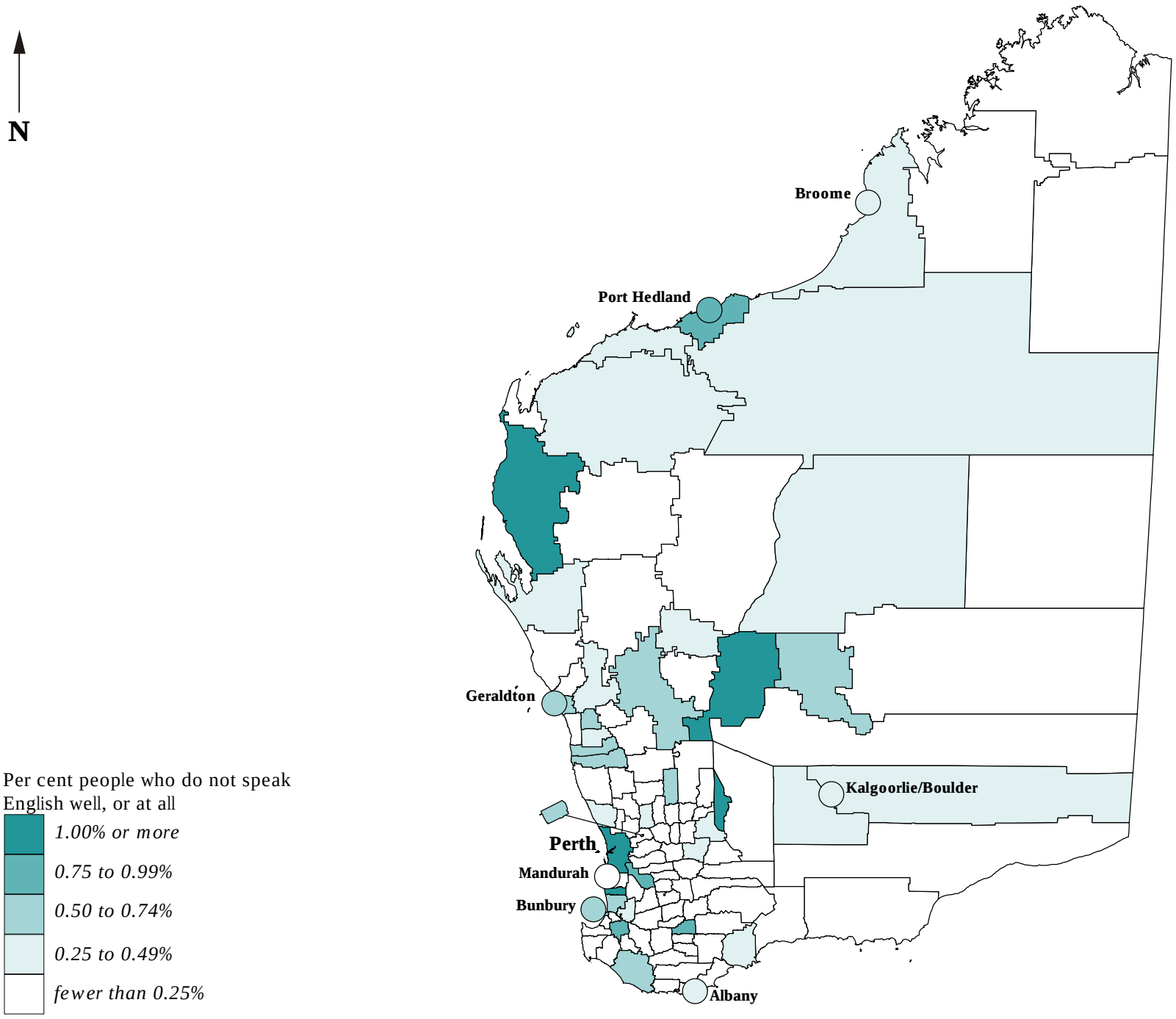
In the non-metropolitan areas of Western Australia in 1996, the largest numbers of migrants with poor English skills were principally located in areas where agricultural and fishing activities predominate, such as Carnarvon and Geraldton, and in mining areas such as Port Hedland, Kalgoorlie and Waroona.

Of the total of 1,460 migrants reporting poor proficiency in English, one third lived in four SLAs; Bunbury (158), Geraldton (112), Carnarvon (108) and Port Hedland (106 people). Other SLAs with relatively high numbers were Harvey (84) and Kalgoorlie/Boulder (81).

As would be expected, there were correlations of meaningful significance at the SLA level with the variables for people born in non-English speaking countries (0.52 for those who had been resident for less than five years, and 0.59 when resident for five years or more). There were also weak correlations with the indicators of socioeconomic disadvantage and weak inverse correlations with the indicators of high socioeconomic status.

Map 3.23
Proficiency in English of people aged five years and over and born in a non-English speaking country, Western Australia, 1996

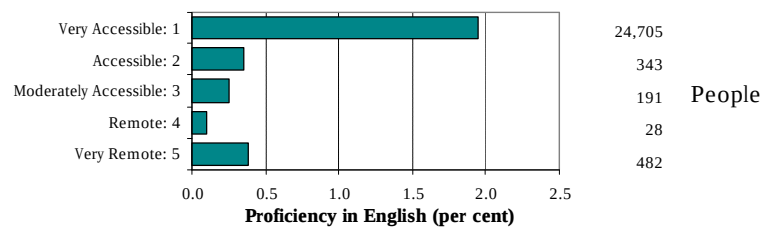
as a percentage of the total population aged five years and over in each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



Not surprisingly, the proficiency in English of the population has a distribution that is similar to that for people born in predominantly non-English speaking countries and now resident in Australia. The highest proportions are in the Very Accessible (2.0 per cent of the population) and Very Remote (0.4 per cent) categories, and the lowest in the Remote areas (0.1 per cent). Both the percentages and numbers are small.

Source: Calculated on ARIA classification, DHAC

Dwellings rented from the State housing authority, 1996

Capital city comparisons

The Census collects data on dwellings rented from the State and Territory housing authorities (in Western Australia it is HomeWest): in this analysis, rented dwellings are expressed as a proportion of all occupied private dwellings. (Note: Private dwellings exclude special dwellings such as hotels and boarding houses.) The distribution of housing authority dwellings is an indicator of the distribution of single parents, unemployed, aged, disabled and Indigenous people, as these groups are given waiting list priority for public housing which has become increasingly scarce since the 1970s.

The proportion of the dwelling stock rented from the State housing authority is just above the national average for both **Sydney** and New South Wales (**Table 3.30**). In comparison, **Darwin**, **Adelaide** and **Canberra** have above average proportions of dwelling stock rented from State government housing authorities. Although the proportion of dwellings in this category increased only slightly, from 5.2 per cent (at the 1986 Census) to 5.5 per cent (at the 1996 Census) of all dwellings in **Sydney**, the 1996 figure represented an additional 13,766 dwellings. The largest relative increase in the number of State housing authority dwellings in the ten years from 1986 to 1996 was recorded in **Brisbane**, and the largest decreases were recorded in **Darwin** and **Canberra**.

Table 3.30: Dwellings rented from the State housing authority, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**5.5**	**2.9**	**4.8**	**9.7**	**4.6**	**8.3**	**15.8**	**9.7**	**5.3**
1986	**5.2**	**2.9**	**3.9**	**10.5**	**5.3**	**10.0**	**21.9**	**11.5**	**5.3**

[1]**Includes Queanbeyan (C)**

Source: ABS special data services

Perth

The proportion of dwellings rented from the State housing authority in **Perth** was 5.3 per cent of the total dwelling stock in both 1986 and 1991, before declining to the 1996 level of 4.6 per cent. However, the number of housing authority rental dwellings increased by 17.2 per cent between 1986 and 1991, from 18,318 to 21,460, before declining slightly, to 21,303 in 1996.

Almost half (43.2 per cent) of the SLAs had proportionately more of these dwellings than the **Perth** average of 4.6 per cent. In these SLAs, the proportion of State owned rental housing ranged from 12.4 per cent in Wanneroo: South-East to 4.8 per cent in Gosnells.

The majority of SLAs with high levels of housing authority rented dwellings were situated in the outer areas of **Perth**, including Wanneroo: South-East (12.4 per cent), Belmont (11.2) and Kwinana (11.0). The City of Perth (11.9), an inner location, and Fremantle (11.2), an older coastal area associated with **Perth's** port activities, each had over 9 per cent of dwellings in this category. Others with 5 per cent or more of dwellings in this category were Cockburn and Stirling: Central (both 7.6 per cent), Mosman Park (6.8 per cent), Bassendean and Swan (both 6.6 per cent), South Perth (6.5 per cent), Victoria Park (6.0 per cent) and Canning (5.3 per cent).

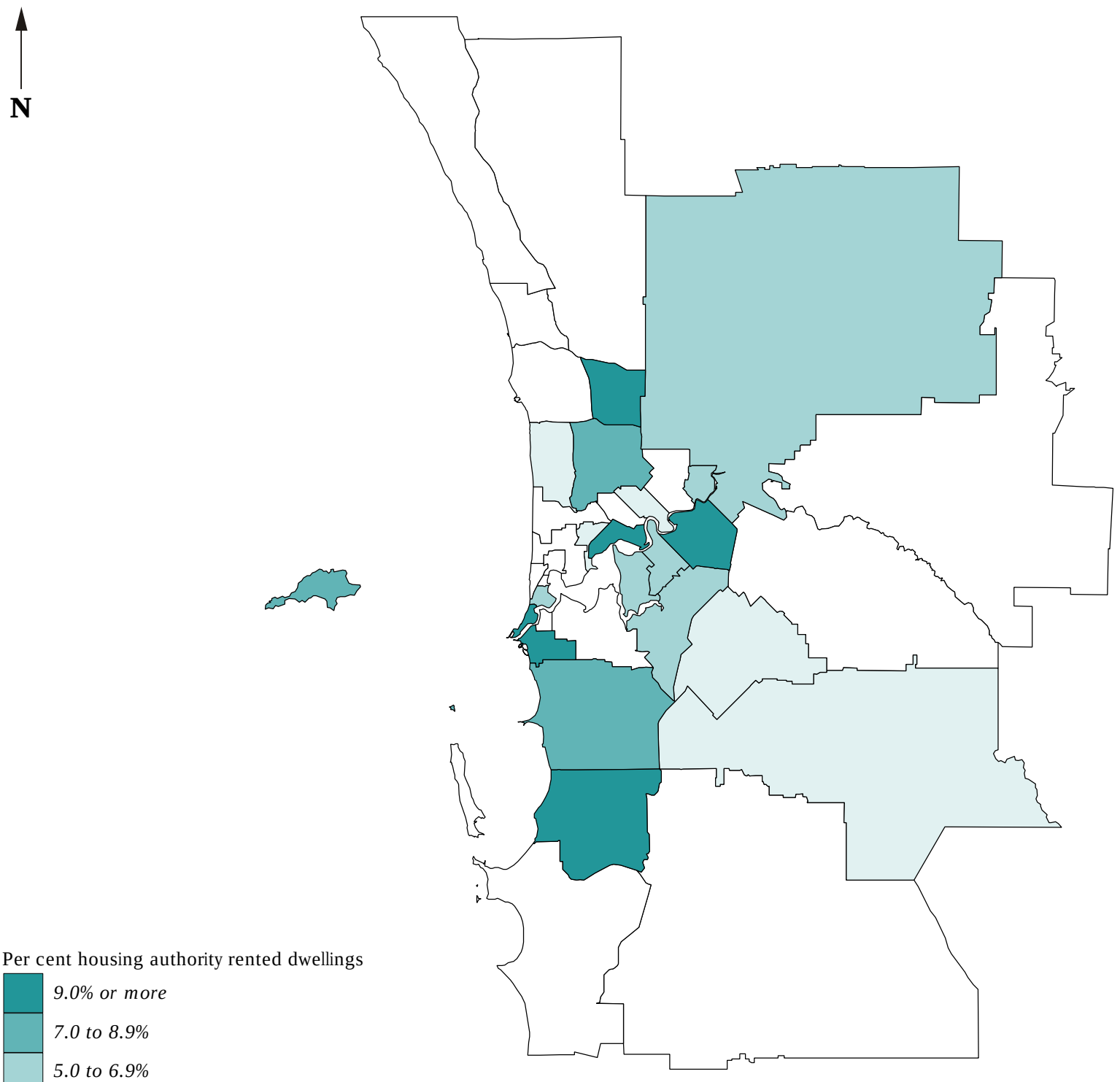
The lowest proportions were in the SLAs of Cambridge (0.3 per cent) and Wanneroo: South-West, Serpentine-Jarrahdale and Claremont (all 0.6 per cent). No dwellings were rented from the State housing authority in the SLA of Peppermint Grove.

Stirling: Central had 2,942 housing authority dwellings, nearly twice the number located in each of Swan (1,555 dwellings) and Cockburn (1,543). The SLAs of Canning (1,317 dwellings), Wanneroo: South-East (1,272), Belmont (1,251), Gosnells (1,205), Fremantle (1,138) and South Perth (1,037) had more than 1,000 housing authority rental dwellings.

These SLAs with more than 1,000 housing authority rented dwellings comprised almost two thirds of all these dwellings in **Perth**.

There were correlations of substantial significance at the SLA level with the variables for single parent families (0.81), low income families (0.77), unemployment (0.75) and the Indigenous population (0.73); and an inverse correlation of substantial significance with the variable for high income families (-0.62). There was also a correlation of meaningful significance with the variable for unskilled and semi-skilled workers (0.52). These results, together with the inverse correlation of substantial significance with the IRSD (-0.72), indicate the existence of an association at the SLA level between high proportions of single parent families and socioeconomic disadvantage.

Map 3.24
Dwellings rented from the State housing authority, Perth, 1996
as a percentage of all occupied private dwellings* in each Statistical Local Area



Per cent housing authority rented dwellings

- *9.0% or more*
- *7.0 to 8.9%*
- *5.0 to 6.9%*
- *3.0 to 4.9%*
- *fewer than 3.0%*

*Includes all privately owned, occupied, dwellings and private rented dwellings. Excludes institutions, motels, guest houses etc and caravans in parks

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Dwellings rented from the State housing authority, 1996

State/Territory comparisons

The Census collects data on dwellings rented from the State and Territory housing authorities (in Western Australia it is HomeWest): in this analysis, rented dwellings are expressed as a proportion of all occupied private dwellings. (Note: Private dwellings exclude special dwellings such as hotels and boarding houses.) In 1996, the Northern Territory had the highest proportion of housing authority rented dwellings outside the capital cities (**Table 3.31**). The lowest levels were recorded in the non-metropolitan areas of Queensland and Victoria. With the exception of Queensland, these rental dwellings declined as a proportion of all occupied private dwellings in all non-metropolitan areas between 1986 and 1996.

Table 3.31: Dwellings rented from the State housing authority, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	5.5	2.9	4.8	9.7	4.6	8.3	15.8	9.7[2]	5.3
Other major urban centres[3]	7.3	5.0	3.3	..	..	..	..	..	5.5
Rest of State/Territory	4.3	3.9	2.9	9.0	5.7	6.2	10.5	–[4]	4.6
Whole of State/Territory	5.4	3.2	3.8	9.5	4.9	7.1	13.0	10.1	5.1
1986									
Rest of State/Territory	4.9	4.5	1.7	12.4	7.5	6.9	13.4	–[4]	5.1

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

After an increase in the proportion of dwellings rented from the State housing authority, from 7.5 per cent in 1986 to 8.3 per cent in 1991, there was a decline to 5.7 per cent in 1996. The number of dwellings was almost the same in both 1986 and 1996 (at just over 9,400 dwellings), although the 1991 figure had been substantially higher at 11,478 dwellings.

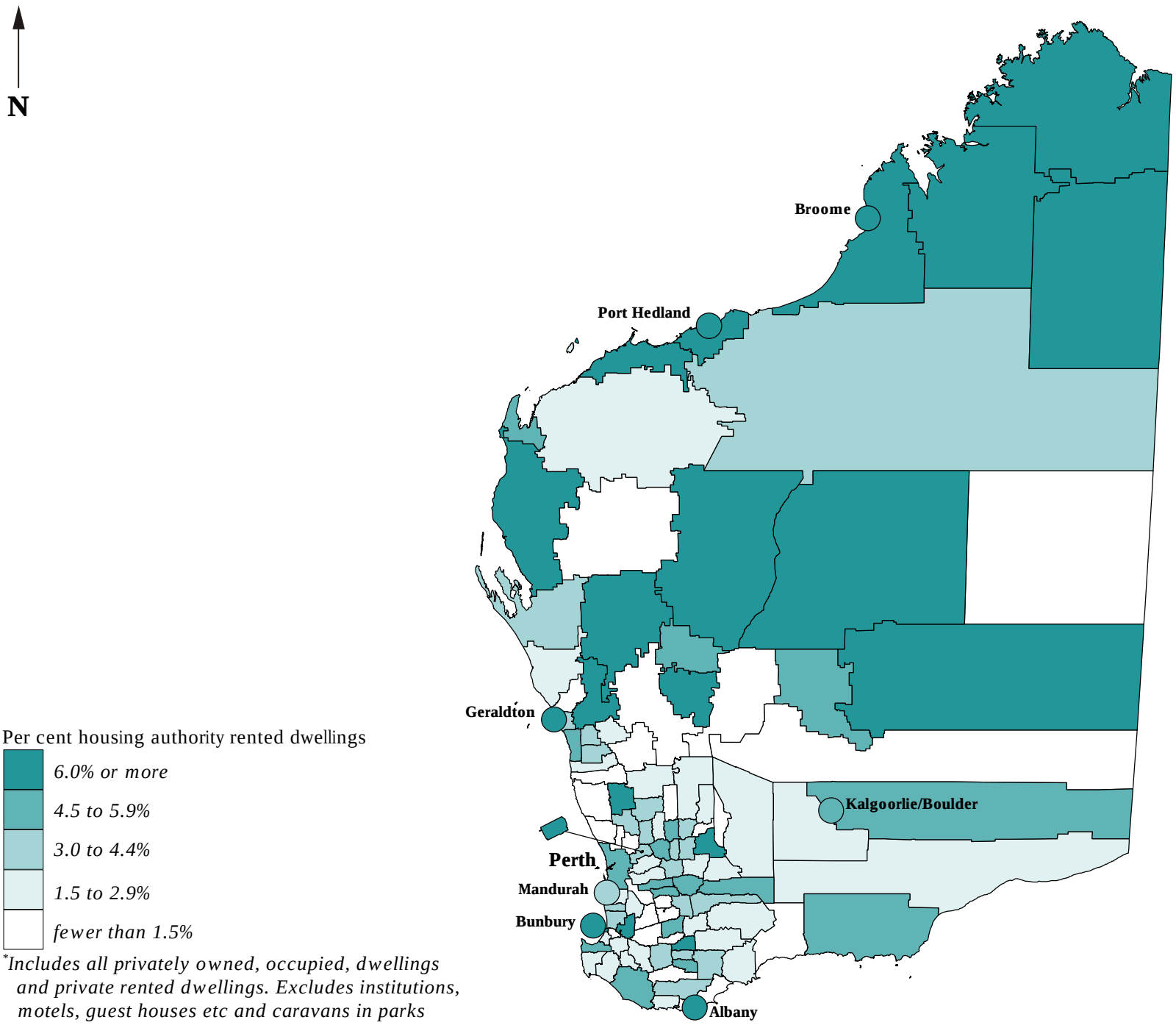
High proportions of State authority rented dwellings were to be found in the far north in Derby-West Kimberley (15.2 per cent), Broome (12.3 per cent), Halls Creek (10.6 per cent) and Wyndham-East Kimberley (10.5 per cent), areas characterised by a mix of pastoral and mining activity (**Map 3.25**). Elsewhere, high concentrations were located in the Port Hedland area, the Exmouth/Carnarvon area and in the central part of the State in SLAs such as Meekatharra (15.4 per cent), Wiluna (9.4 per cent), Laverton (8.9 per cent) and Leonora (5.0 per cent). The principal activity in these areas is exploration and development associated with mining, although there is extensive agricultural activity in the Carnarvon Shire; again, Indigenous populations in some of these SLAs are high. In the south-west of the State, proportions of State housing authority rental dwellings ranged from 5.0 to 10.0 per cent.

Proportions of 1.0 per cent or lower were recorded in the SLAs of Dardanup (0.2 per cent), the Shire of Albany (0.4 per cent), Gingin (0.5 per cent), Ravensthorpe and Dandaragan (both 0.9 per cent) and Ngaanyatjarraku (1.0 per cent).

Bunbury (828 dwellings) and Geraldton (773) each had more than 700 dwellings rented from the State housing authority, while Port Hedland (587), Kalgoorlie/Boulder (564), Albany (542), Broome (532) and Mandurah (521) each had more than 500. Roebourne, to the south-west of Port Hedland, had 451 of these dwellings.

Apart from a correlation of meaningful significance with the variable for dwellings without a motor vehicle (0.53), there was only a weak association evident in the correlation analysis at the SLA level with other socioeconomic variables. There were weak positive correlations with the variables for the Indigenous population (0.48) and single parent families (0.49), and an inverse correlation with the variable for managers and administrators, and professionals (-0.41). These results, together with the weak inverse correlation with the IRSD (-0.40), suggest the existence of an association at the SLA level between high proportions of housing authority rented dwellings and socioeconomic disadvantage.

Map 3.25
Dwellings rented from the State housing authority, Western Australia, 1996
as a percentage of all occupied private dwellings* in each Statistical Local Area



*Includes all privately owned, occupied, dwellings and private rented dwellings. Excludes institutions, motels, guest houses etc and caravans in parks

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia

Three quarters (75.8 per cent) of dwellings rented from the State housing authority are in the Very Accessible category. However, the highest proportion (and second largest number) is in the Very Remote category, where they represent 8.6 per cent of all occupied private dwellings. The second highest proportion is in the Accessible category (6.0 per cent) and the lowest is in the Remote category (3.4 per cent).

Source: Calculated on ARIA classification, DHAC

Dwellings with no motor vehicle, 1996

Capital city comparison

Households without cars face many disadvantages in gaining access to jobs, services and recreation, especially if they are in low-density outer suburbia. In 1996, 12.5 per cent of occupied private dwellings in **Adelaide** had no motor vehicles parked or garaged overnight (**Table 3.32**). This figure was the same as the average across all capital cities, with percentages for most capital cities varying between 10 and 13 per cent. However, **Sydney** was notable for the considerably high proportion (15.4 per cent) and **Canberra** for its low proportion (8.6 per cent) relative to the other cities.

Comparisons with 1986 data show that, on average, there has been a decline in the proportion of dwellings without motor vehicles in the capital cities in the ten years to 1996. However, although the *All capitals* figure fell from 13.8 per cent in 1986 to 12.5 per cent in 1996, and a decrease was recorded for all capital cities except **Darwin** and **Canberra** (increases of 1.0 and 1.1 percentage points respectively), the absolute number of dwellings with no motor vehicle increased.

Table 3.32: Dwellings with no motor vehicle, capital cities

Per cent

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	**15.4**	**11.2**	**11.6**	**12.5**	**9.5**	**12.2**	**10.2**	**8.8**	**12.5**
1986	**16.8**	**12.7**	**12.9**	**13.2**	**10.6**	**13.4**	**9.2**	**7.7**	**13.8**

[1]Includes Queanbeyan (C)

Source: ABS special data services

Perth

The proportion of dwellings recorded as having no motor vehicle available declined from 10.6 per cent in 1986 to 10.2 per cent in 1991 and to 9.5 per cent in 1996. However, the number of these dwellings has increased steadily, growing from 36,221 dwellings in 1986 to 41,023 in 1991 and to 44,069 in 1996.

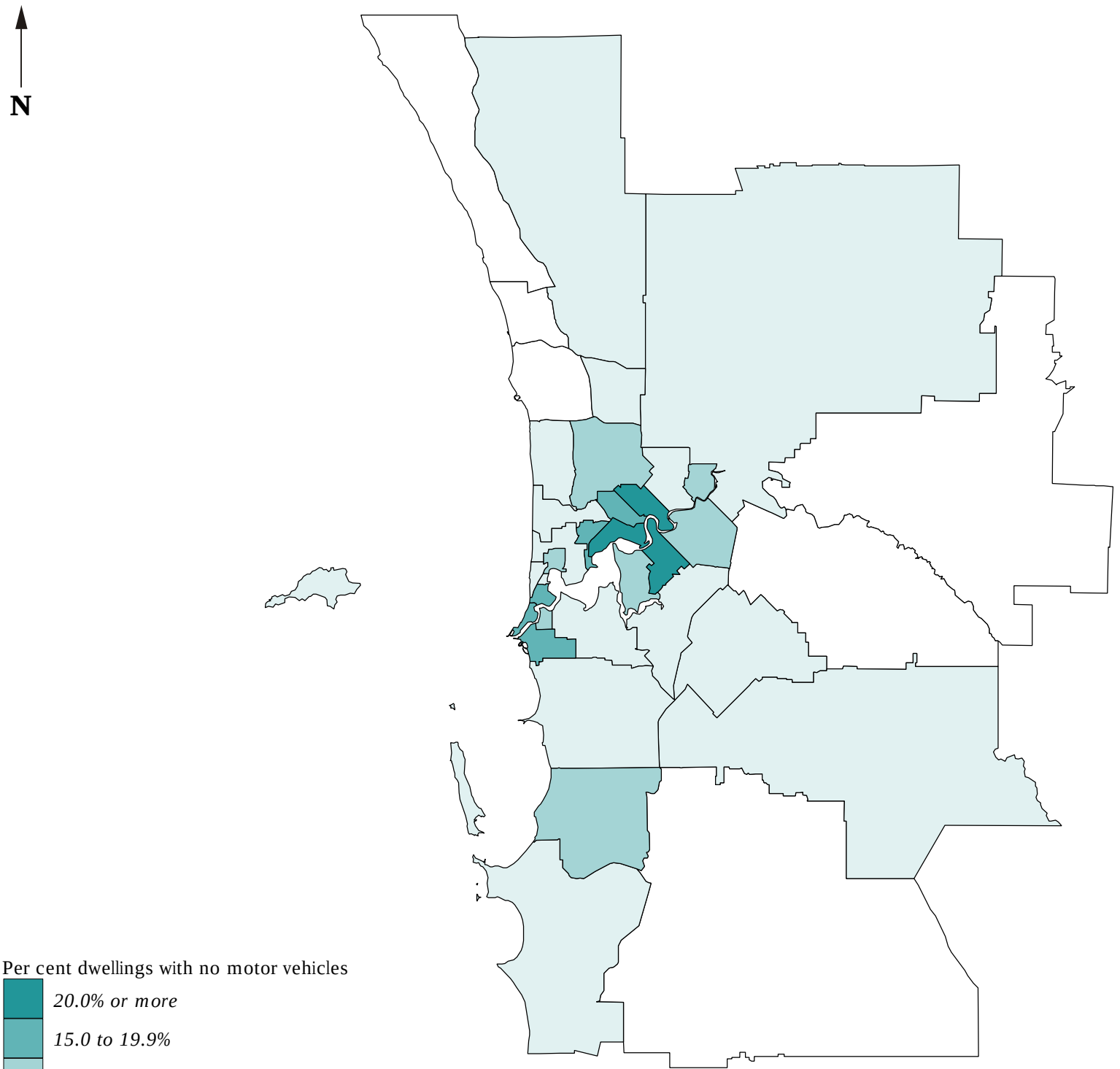
Forty per cent of **Perth's** SLAs had higher proportions of dwellings without a motor vehicle than the metropolitan average (**Map 3.26**). In the City of Perth, more than one third of its dwellings had no motor vehicle at the time of the 1996 Census (36.8 per cent), while in the two near city SLAs of Stirling: South-Eastern and Victoria Park, the proportions of dwellings with no motor vehicles were 21.5 and 21.0 per cent respectively. Other high proportions were in the SLAs of Subiaco (19.1 per cent), Vincent (18.9 per cent), Mosman Park (18.1 per cent), Fremantle (17.5 per cent) and Belmont (14.0 per cent).

With increasing distance from the city centre, vehicle ownership becomes more important. Consequently, in the suburbs and urban fringe areas of the metropolitan area, the proportion of dwellings without motor vehicles was very low. The highest proportion of dwellings without a motor vehicle in these SLAs was in Rockingham and Swan (both 7.3 per cent), while the lowest was in Serpentine-Jarrahdale (2.6 per cent), some 35 kilometres south-east of the city centre.

There were correlations of meaningful significance with the variables for people aged 65 years and over (0.68), people born in predominantly non-English speaking countries and resident for fewer than five years (0.66), people with poor proficiency in English (0.51) and unemployed people (0.51); indicating that these population groups have low levels of access to a motor vehicle. The inverse correlation of meaningful significance with children aged from 0 to 4 years (-0.50), indicates that households with young children were more likely to have cars.

Map 3.26
Dwellings with no motor vehicle, Perth, 1996

as a percentage of all occupied private dwellings* in each Statistical Local Area



Per cent dwellings with no motor vehicles

- *20.0% or more*
- *15.0 to 19.9%*
- *10.0 to 14.9%*
- *5.0 to 9.9%*
- *fewer than 5.0%*

*Includes all privately owned, occupied, dwellings and private rented dwellings. Excludes institutions, motels, guest houses etc and caravans in parks

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

National Social Health Atlas Project, 1999

Dwellings with no motor vehicle, 1996

State/Territory comparison

The phenomenon of higher car ownership in non-metropolitan relative to urban areas was apparent within all the States and Territories other than the Northern Territory. Rates varied considerably across the nation, from 7.8 per cent of occupied private dwellings with no motor vehicle in Western Australia to 18.3 per cent in the Northern Territory, with most States and Territories recording between 8 and 10 per cent (**Table 3.33**). The Northern Territory had the highest percentages for both the *Rest of State* and *Whole of State/Territory* categories, ahead of New South Wales.

The average across all *Rest of State/Territory* areas was 9.6 per cent at both the 1986 and 1996 Censuses.

Table 3.33: Dwellings with no motor vehicle, State/Territory

Per cent

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	15.4	11.2	11.6	12.5	9.5	12.2	10.2	8.8[2]	12.5
Other major urban centres[3]	13.8	11.7	10.8	..	..	..	..	..	12.4
Rest of State/Territory	10.7	8.3	9.8	8.2	7.8	9.5	18.3	–[4]	9.6
Whole of State/Territory	14.0	10.5	10.7	11.4	9.0	10.7	14.4	8.5	11.6
1986									
Rest of State/Territory	10.6	8.6	9.7	8.1	8.1	10.2	19.8	–[4]	9.6

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Rest of State

The trend for the non-metropolitan areas of Western Australia is similar to that described for **Perth,** in that the proportion of dwellings without a motor vehicle was lower in 1996 (7.8 per cent) than it was in 1986, when 8.1 per cent of dwellings had no motor vehicle parked or garaged on Census night. The proportion in 1991 was a higher 8.3 per cent.

Almost three quarters (71.7 per cent) of the SLAs outside **Perth** had fewer dwellings without a motor vehicle than the *Rest of State* average. In Sandstone and Cuballing there were no dwellings without a motor vehicle.

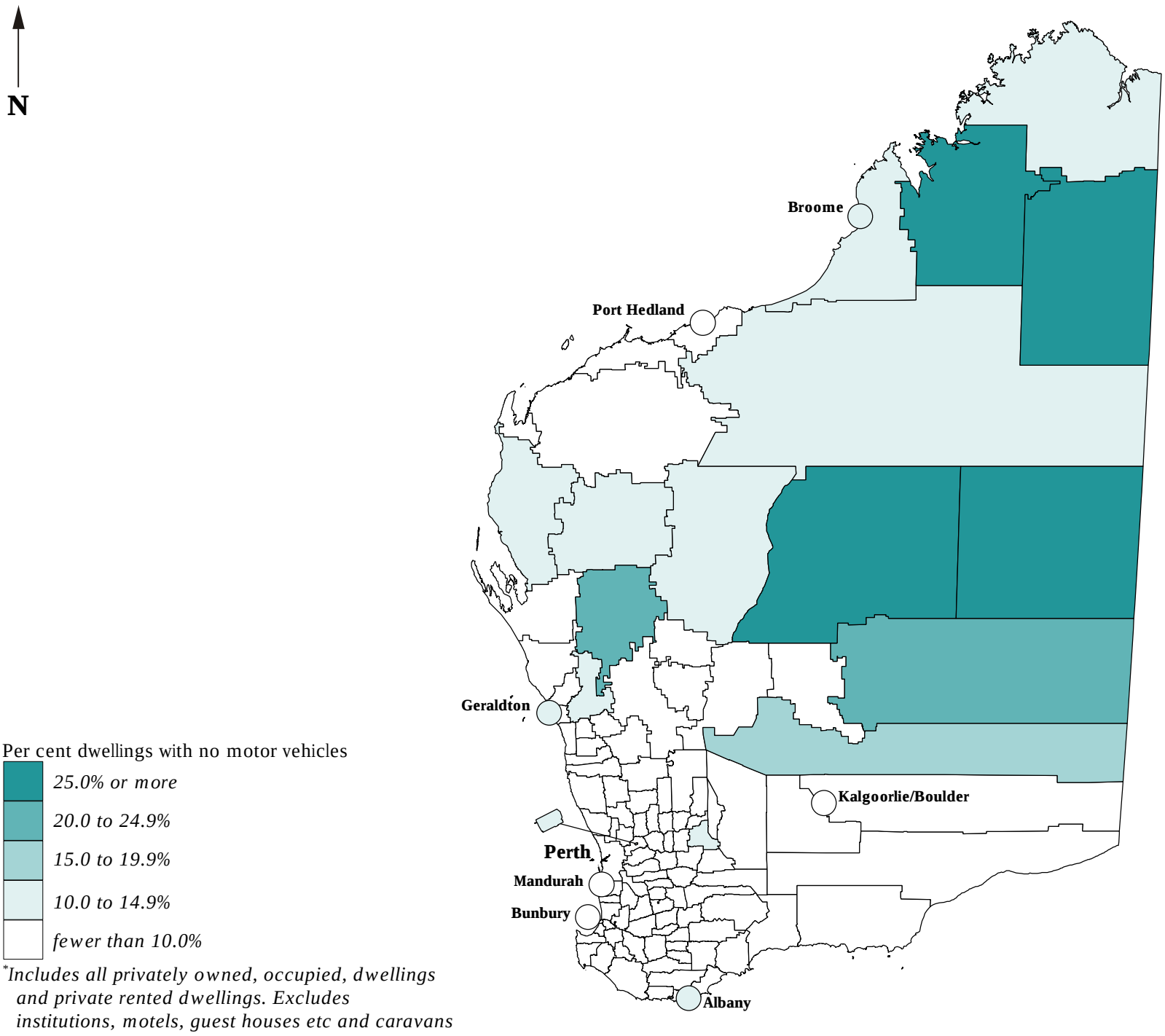
The highest proportions of dwellings with no motor vehicles were in the more remote parts of the State, particularly those areas with Aboriginal communities (**Map 3.27**). More than 20 per cent of dwellings had no motor vehicles in Ngaanyatjarraku (50.5 per cent), Halls Creek (33.1 per cent), Derby-West Kimberley (27.4), Wiluna (25.6), Laverton (23.6), and Murchison (20.6).

The highest levels of car ownership, indicated by low proportions of dwellings with no motor vehicle, were located in the wheat belt and the south-west corner of the State. The lowest of these were Chapman Valley (1.1 per cent; and 3 people) Chittering (1.5 per cent; and 12 people), Lake Grace (1.9 per cent; and 12 people) Albany (1.9 per cent; and 83 people) and Capel (2.1 per cent; and 40 people).

The largest numbers of dwellings without a motor vehicle were generally located in towns with a high proportion of retired people, such as Mandurah (1,207 dwellings), Bunbury (918), Geraldton (868), Albany (697) and Busselton (435). Relatively high numbers were also recorded in towns such as Kalgoorlie/Boulder (835 dwellings), Port Hedland (355), Esperance (312) and Roebourne (281).

There were correlations of substantial significance at the SLA level with the variables for Indigenous Australians (0.86) and single parent families (0.71). There were also correlations of meaningful significance with the variables for low income families (0.51) and housing authority rented dwellings (0.53), and a weak inverse correlation with managers and administrators, and professionals (-0.41). These results, together with the inverse correlation of substantial significance with the IRSD (-0.80), indicate the existence of an association at the SLA level between high proportions of dwellings without a motor vehicle and socioeconomic disadvantage.

Map 3.27
Dwellings with no motor vehicle, Western Australia, 1996
as a percentage of all occupied private dwellings* in each Statistical Local Area

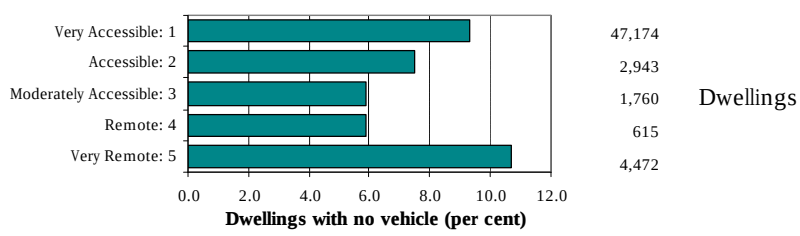


*Includes all privately owned, occupied, dwellings and private rented dwellings. Excludes institutions, motels, guest houses etc and caravans in parks

Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



The highest proportions of dwellings without a motor vehicle are in the Very Remote (10.7 per cent) and Very Accessible (9.3 per cent) areas, with the lowest proportions in the Moderately Accessible and Remote areas (both 7.3 per cent). The distribution of the Indigenous population is likely to have influenced the high proportion in the Very Remote areas.

Source: Calculated on ARIA classification, DHAC

SEIFA Index of Relative Socio-Economic Disadvantage, 1996

Capital city comparison (Australia equals 1000)

A description of the SEIFA Index of Relative Socio-Economic Disadvantage (IRSD), and comments as to its use in comparisons between Censuses, is provided on page 17. Briefly, the IRSD score measures the relative socioeconomic disadvantage of the population of an area in comparison with the average for Australia as a whole. High index scores indicate least disadvantage and low index scores indicate greater disadvantage. At the 1996 Census, **Canberra** had the highest IRSD score, of 1084, showing its population to have the least relative disadvantage, or highest socioeconomic status, and **Adelaide** the lowest, with 992, showing its population to have the most relative disadvantage, or lowest socioeconomic status (**Table 3.34**). Between 1986 and 1996, the IRSD scores in **Sydney**, **Perth** and **Darwin** all increased relative to the Australian score of 1000: scores for the other capital cities declined or remained relatively stable.

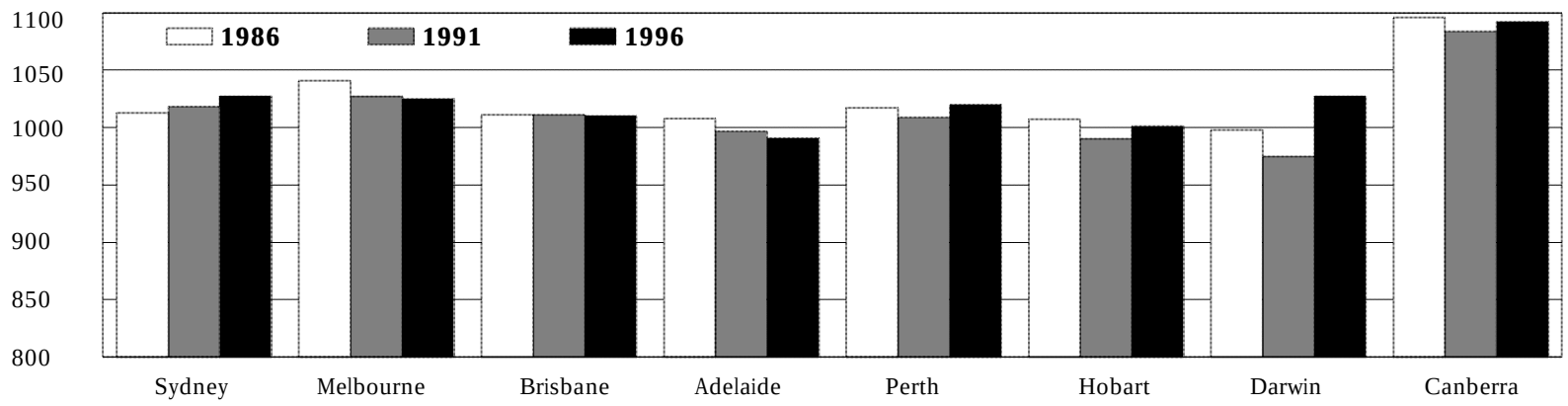
Table 3.34: SEIFA Index of Relative Socio-Economic Disadvantage, capital cities
Index values (Australia equals 1000)

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra[1]	All capitals
1996	1027	1025	1010	992	1020	1001	1027	1084	1021
1986	1013	1041	1011	1008	1017	1007	998	1089	1021

[1] **Includes Queanbeyan (C)**
Source: ABS special data services

Figure 3.1 indicates the steady increase over each of the last three Censuses (1986, 1991, 1996) in the scores for **Sydney**; the steady decline for **Adelaide**; the stable situation in **Brisbane**; the slowing of the decline in **Melbourne**; and the turnaround experienced by the other capital cities, following a decline in index scores from 1986 to 1991. **Adelaide** had the lowest score of the capital cities for the first time in any of these three periods.

Figure 3.1: SEIFA Index of Relative Socio-Economic Disadvantage, capital cities



Source: ABS SEIFA86, SEIFA91, SEIFA96

Perth (Western Australia equals 1000)

At the 1996 Census, the IRSD recorded for **Perth** was 1020 (when the index score for Western Australia was 1000).

The overall pattern of distribution of these index scores within **Perth** indicated that the least disadvantaged areas in 1996 were situated to the east, north and north-west of the city centre, while the most disadvantaged areas were located in the industrial areas to the south-west, and in a group of SLAs immediately to the east of the city (**Map 3.28**).

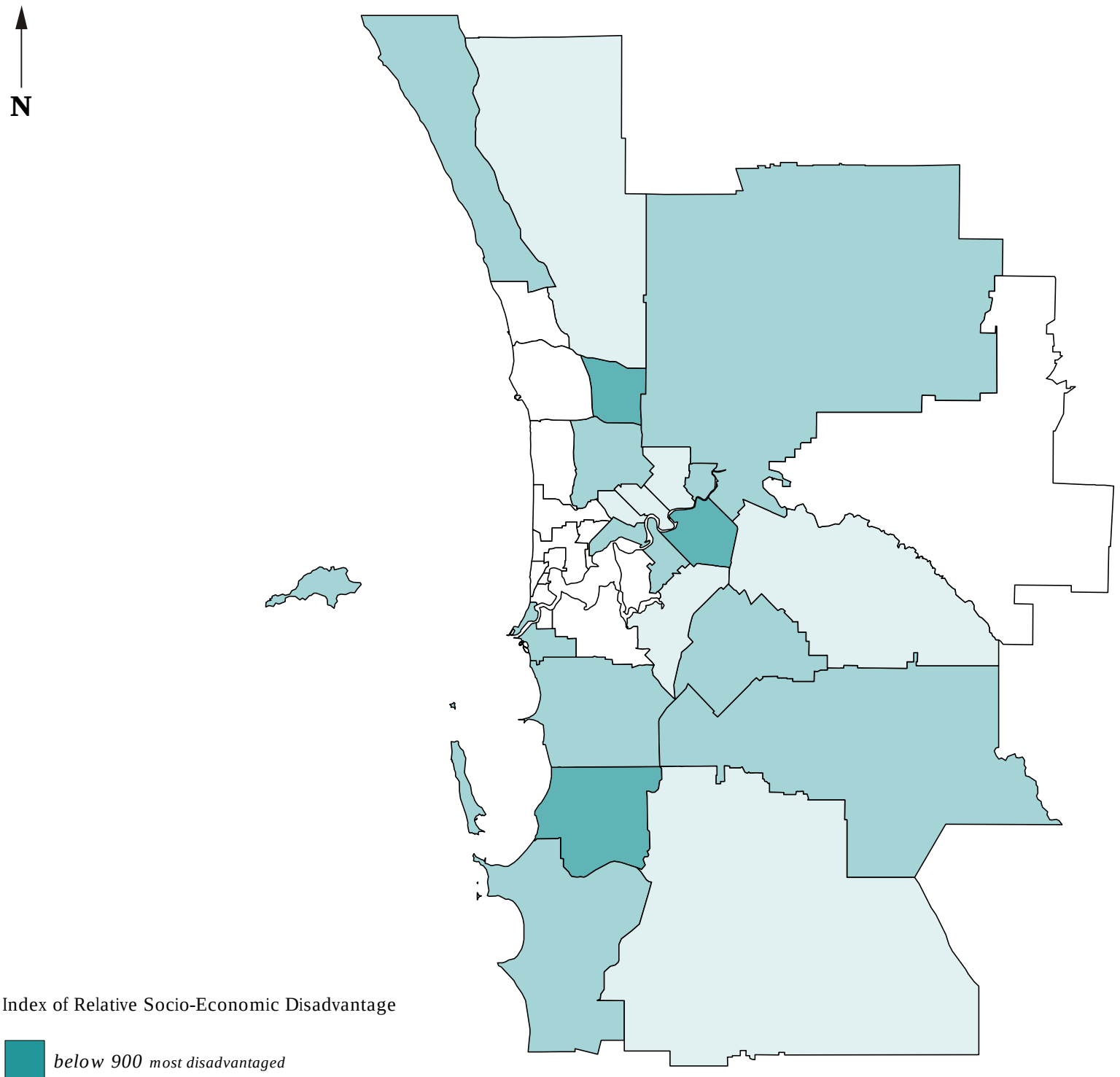
SLAs with index scores of greater than 1100, and therefore with the least socioeconomic disadvantage, were Peppermint Grove (an IRSD of 1174), Cottesloe (1144), Nedlands (1140), Cambridge (1135) and Claremont (1129).

Relatively low scores, indicating the most disadvantaged SLAs, were recorded for residents of Kwinana (an IRSD of 907), Belmont (931), Wanneroo: South-East (939), Stirling: Central (959) and Rockingham (968).

There were inverse correlations of substantial significance with many of the indicators of socioeconomic disadvantage, including the variables for unskilled and semi-skilled workers (-0.92), low income families (-0.91), early school leavers (-0.90), unemployed people (-0.81) and Indigenous Australians (-0.80). These inverse correlations indicate a positive association at the SLA level between this aggregate measure of socioeconomic disadvantage and the individual indicators analysed. On the other hand, there were strong positive correlations with the variables for high income families (0.97) and managers and administrators, and professionals (0.90), together with a correlation of meaningful significance with female labour force participation rates (0.54). These correlations indicate a positive relationship between these variables and areas comprising the most advantaged populations.

Map 3.28
ABS Index of Relative Socio-Economic Disadvantage, Perth, 1996

IRSD index number for each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

SEIFA Index of Relative Socio-Economic Disadvantage, 1996

State/Territory comparison (Australia equals 1000)

A description of the SEIFA Index of Relative Socio-Economic Disadvantage (IRSD), and comments as to its use in comparisons between Censuses, is provided on page 17. The *Whole of State/Territory* index scores ranged from a low of 962 in the Northern Territory to a high of 1091 in the Australian Capital Territory. Between 1986 and 1996 index scores for the non-metropolitan areas of Australia declined for each State and the Northern Territory (**Table 3.35**), although the score in Western Australia was almost stable.

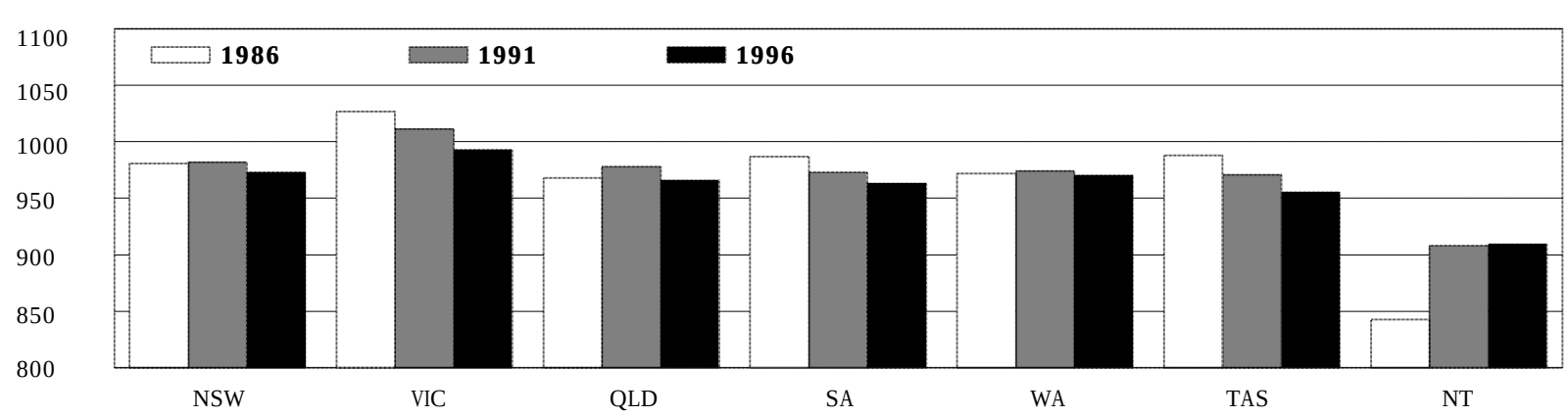
Table 3.35: SEIFA Index of Relative Socio-Economic Disadvantage, State/Territory
Index values (Australia equals 1000)

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Total[1]
1996									
Capital city	1027	1025	1010	992	1020	1001	1027	1084	1021
Other major urban centres	973	980	985	..	..	..	..	..	978
Rest of State/Territory	973	995	965	963	970	955	909	–[4]	972
Whole of State/Territory	1007	1016	989	984	1006	974	962	1091	1000
1986									
Rest of State/Territory	981	1026	972	986	971	988	917	–[4]	999

[1]Total for *Whole of State/Territory* includes Other Territories '(Jervis Bay, Christmas Island and Cocos Islands)
[2]Includes Queanbeyan (C)
[3]Includes Newcastle and Wollongong (NSW); Geelong (Vic); and Gold Coast-Tweed Heads and Townsville-Thuringowa (Qld)
[4]Data included with ACT total
Source: ABS special data services

Figure 3.2 indicates the steady decline over the last three Censuses (1986, 1991, 1996) in the scores for the non-metropolitan areas of Victoria, South Australia and Tasmania and the marked increase in the Northern Territory (although remaining as the lowest score); and the small decline experienced by the non-metropolitan areas of New South Wales, Queensland and Western Australia, following the increase from 1986 to 1991.

Figure 3.2: SEIFA Index of Relative Socio-Economic Disadvantage, Rest of State/Territory



Source: ABS SEIFA86, SEIFA91, SEIFA96

Rest of State (Western Australia equals 1000)

At the 1996 Census, the non-metropolitan areas of Western Australia had an IRSD of 970 (when the index score for Western Australia was 1000). This was considerably lower than the score recorded in **Perth** (of 1020), indicating a greater degree of disadvantage relative to the Western Australian population as a whole.

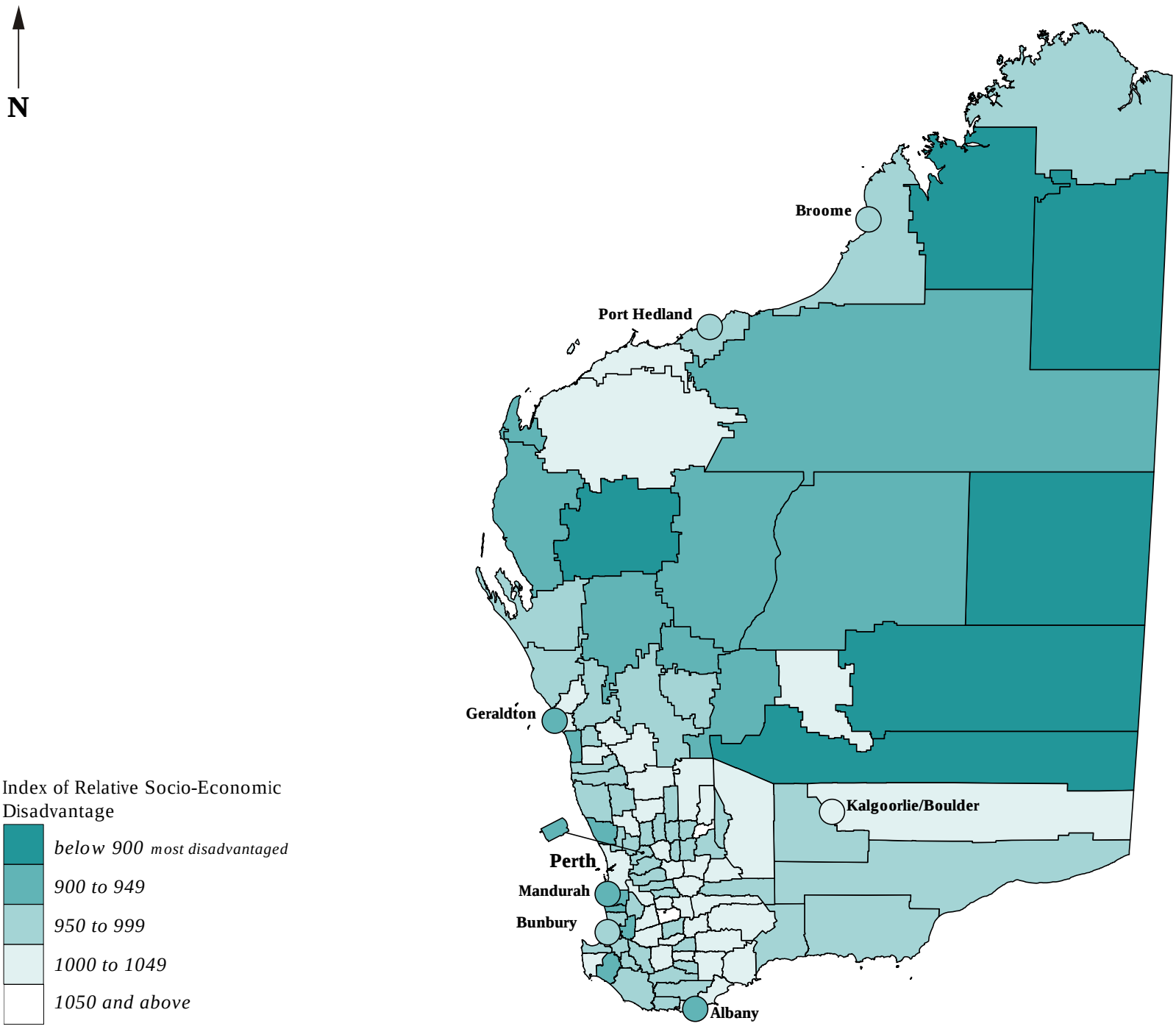
Outside **Perth**, the most disadvantaged areas were located in the State's far north, with the lowest index scores recorded in areas with relatively large Indigenous populations of Wiluna-Ngaanyatjarraku (an IRSD score of 634), Derby-West Kimberley (825), Halls Creek (831), Laverton (844), Upper Gascoyne (873) and Menzies (877).

Narrogin (with an IRSD score of 1110) recorded the highest score (least disadvantaged) outside of **Perth**, while other SLAs with high IRSD scores were Nungarin (1064), Morawa (1046) and Lake Grace (1045).

There were inverse correlations of substantial significance with the variables for dwellings without a motor vehicle (-0.80), single parent families (-0.73) and the Indigenous population (-0.71), indicating a positive association at the SLA level between this aggregate measure of socioeconomic disadvantage and the individual indicators analysed. Correlations of meaningful significance were recorded at the SLA level with the distribution of managers and administrators, and professionals (0.55) and female labour force participation rates (051).

Map 3.29
ABS Index of Relative Socio-Economic Disadvantage, Western Australia, 1996

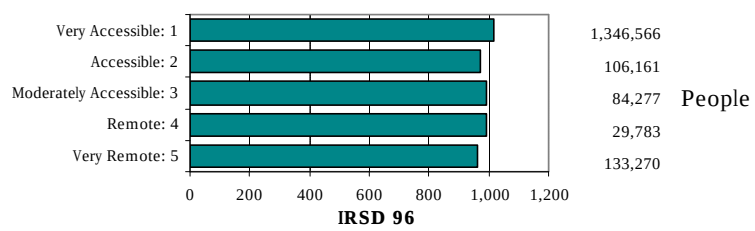
IRSD index number for each Statistical Local Area



Source: Calculated on data from ABS 1996 Census

Details of map boundaries are in Appendix 1.2

Accessibility/Remoteness Index of Australia



When calculated by ARIA category, the ABS Index of Relative Socio-Economic Disadvantage scores in Western Australia cover a narrower range than the other States with areas in all five ARIA categories. The highest index score (indicating the most advantaged areas) is in the Very Accessible ARIA category (1014) and the lowest scores are in the Very Remote (963) and Accessible (970) categories, respectively. Both of the other categories have an index score of 991.

Source: Calculated on ARIA classification, DHAC

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